

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

1.9
P. 69. W.

W E E K L Y B U L L E T I N
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII

January 1, 1921.

No. 1

Western Irrigation Agriculture.

Field Notes.

Yuma.

The maximum temperature for the week ending December 25, was 73, minimum 24, greatest daily range 39, and precipitation none.

Several cloudy days with high winds occurred during the past week but not a drop of rain. Fall plowing and seeding on the project continues uninterrupted.

Station work during the week consisted of irrigating barley varieties, garden and nurseries; picking cotton varieties; hauling and stacking alfalfa; general cleaning up, hoeing, etc.

Demonstrations on Reclamation Projects.

Field Notes.

Uncompahgre.

Snow fell on Sunday and Monday of the week ending December 25, to a depth of over ten inches. Temperatures have been below freezing, the minimum being -1, so that all the snow remains on the ground. It has been fair most of the week with no wind.

A meeting of a committee to arrange a program for the annual corn show to be held at Olathe early in January was attended on Wednesday. An institute in connection with the show is being planned, speakers from the College being invited. A premium list providing for a complete classification of corn and potatoes has been prepared.

UNITED STATES

Department of the Interior

Geological Survey

Washington, D. C.

Report of the Director of the Geological Survey
for the year 1900

Published by the Government Printing Office

1901

The following is a list of the publications of the Geological Survey for the year 1900. The list is arranged in alphabetical order of the authors' names. The publications are as follows:

Annual Report of the Director of the Geological Survey for the year 1900

Published by the Government Printing Office

The following is a list of the publications of the Geological Survey for the year 1900. The list is arranged in alphabetical order of the authors' names. The publications are as follows:

WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII

January 8, 1921.

No. 2

Western Irrigation AgricultureField Notes.Scottsbluff.

Under date of January 3, Mr. Holden wrote Mr. Scofield as follows concerning conditions on the experiment farm and project:

"The weather has been unusually mild this fall up until December 21, when we had our first sign of winter. On this date we had about four inches of snow which remained on the ground for a week and the temperature went down to -21 on the night of the 23rd. All crops were harvested this past fall before being damaged by frost.

"Twelve lots of lambs were put on feed on November 5. We are duplicating last winter's tests. The lambs will be fed 100 days when the experiment will close. If the market is not favorable they may be held another 30 days. The initial weight of the lambs was about 45 pounds. The lambs are doing fine. In addition to the lambs we are feeding a car of dairy stuff which will be shipped to market next spring.

"We now have a dairyman in charge of the dairy. He is Mr. Sorensen who has been herdsman at the University dairy for a number of years. It is Dean Burnett's idea to develop the dairy herd during the next year or two. We have just received three two-year-old heifers from Wisconsin. These heifers were shipped in with two car loads of dairy cows for farmers here in the valley.

"Tight money is being felt by many farmers. The bankers claim that a large number of farmers are not paying out this fall. The expense of growing the crops was extremely high while the prices received for most crops were far below what was received a year ago. The farmers received \$12 per ton for beets delivered from the field and \$13.50 for siloed beets. The yield of beets was low. Fields that under normal years would have yielded 12 or 15 tons per acre did not yield more than 10 tons. Very few fields averaged as high as 12 tons per acre.

"The Sugar Co. has not come out with any statement as to what they will pay for beets next year. There is a movement on among the farmers to ask the sugar company to pay for each ton of beets delivered the seaboard price of 129 pounds of sugar. I doubt if the sugar company will agree to such a contract.

"Due to the tight money situation there will not be more than about 60 percent as many cattle and lambs fed in the valley this winter as there were last winter.

"The indications are that labor will be more plentiful and much cheaper next spring. Even this fall laborers were rather plentiful but the wages paid were high, varying from \$125 to \$200 per month. There are some idle men in the towns at present and this number will be increased when the sugar factories close. As there is very little building going on carpenters are more or less plentiful at about one-half the wage they demanded two months ago."

San Antonio.

During the two weeks period ending January 1, the minimum temperature of the winter thus far, 19 degrees, was recorded for the night of December 27. A maximum temperature of 80 was recorded the morning of December 21, and the greatest daily range of the period was 39. A precipitation of .02 inch occurred the night of December 19. Seven days were recorded as clear and 7 days cloudy.

The year 1920 has been quite variable climatically. Wet weather which began in the fall of 1919 extended through to January 24, 1920. A dry spell then followed and very little rain fell until May 7. Continuous light showers and wet morning fogs then prevailed until the last of June when another season of dry weather began. Only a few rains of appreciable proportion occurred during the remainder of the year. This distribution was favorable to corn, oats, and sorghum and to the grasses during the first half of the year. During the latter part of the year the ranges have dried up and many stockmen, depending on water holes filled by rains for their cattle, have run short of water. The total precipitation for 1920 as recorded at the Farm was 22.13 inches as compared with an average for the past 14 years, 1909 to 1920, inclusive, of 25.14 inches.

Manuring of rotation plats and plowing of fields C4, 5 and 6 was continued. The seed house was given a second heavy fumigation with hydrocyanic acid gas, apparently getting rid of all weevils and rodents.

Demonstrations on Reclamation Projects

Field Notes

Uncompahgre.

A feeding test was begun with a bunch of hogs for Mr. F. J. Squirrell during the week ending January 1. The hogs on test are 23 head of high grade, thrifty Duroc-Jerseys and 22 head of grade Poland Chinas of poorer quality. Cull potatoes and ground wheat are the feeds being used. The potatoes have no market value and the wheat is worth about \$2.00 per cwt.

Three meetings of farmers have been attended this week with Mr. King, who has talked farm bureau re-organization at each meeting. The general livestock situation on the project as presented by the Reclamation Census was also discussed. The meetings have been only fairly well attended but interest shown in the subjects under discussion has been good.

A case of suspected hog cholera occurred on the project this week and the farm was visited with Dr. Griffiths of the local veterinary association. The hogs had been running on wheat stubble until a few days prior to the visit when they were shut in a tight pen and fed on cooked potatoes without grain. There were no symptoms of cholera found. The affected hogs showed some diarrhea but normal temperatures. They were treated with some kind of a "mixed infection" bacterin.

-oOo-

1890

Jan 1st

Received of Mr. J. H. Smith

the sum of \$100.00

for the purchase of

the land on the

corner of the

street and the

river.

Witness my hand

this 1st day of

January 1890.

J. H. Smith

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII

January 15, 1921

No. 3

AGRICULTURAL DEVELOPMENT ON THE HUNTLEY RECLAMATION PROJECT
IN 1920

By George A. Wright, Agriculturist.

General Statement

The growing season of 1920 like that of 1919 was somewhat discouraging to farmers. In both years the difficulties encountered were largely attributable to conditions in the spring, but whereas the spring of 1919 was characterized by almost an absence of precipitation, that of 1920, with the exception of a few days which came quite early, was so wet as to seriously interfere with field work and the greater part of the seeding was done late. When precipitation ceased there came strong winds which dried and baked the heavy soils. Much seed failed to sprout and some died after sprouting. Irrigating crops up in these soils generally means an imperfect stand.

Farmers who had done fall plowing and as a consequence were able to put seed into the ground during the few favorable days early in the season generally fared well. This was especially true with grain and beet producers. The field man for the Great Western Sugar Company reported the acreage of beets harvested as 20% less than the acreage planted, the reduction being due chiefly to faulty germination as a result of poor seed beds. Two bad hail storms also adversely affected most crops over a considerable part of the project.

A reduction in the per acre yield of alfalfa also occurred, caused in part by winter killing and in part by unfavorable weather conditions during a portion of the growing season. From January 1, until the new crop came, the price ranged from \$20 to \$30 per ton. From that time on it declined until in December hay sold at from \$5 to \$10 per ton in the stack. The price of the other principal crops, excepting that of sugar beets, for which growers received \$12 a ton, maintained the usual relations to those offered at central markets.

The period between killing frosts was 148 days as against 137 days in 1919. The precipitation was 9.68 inches as against 10.93 inches in 1919 and an average of 13.32 inches for the past thirteen years.

Conditions for live stock development have not been so favorable as during some previous years. A comparative statement given on another page shows that all classes except sheep declined in numbers during the year. The conditions which caused this will be discussed more fully when the several industries are treated separately.

At no time during the season was there any shortage of water for irrigation and distribution was efficient. However, questions pertaining to the finances of the reclamation project were a matter of serious concern during the latter part of the year to every holder of a unit. During November a plan was proposed by the United States Reclamation Service to combine the cost of necessary new work estimated at \$410,000.00, with an existing deficit of \$423,347.04, amounting in all to \$29.50 per irrigable acre, and permit payment in annual installments without interest after the expiration of the period of repayment of the primary construction charge, that is, after 1934. Officials of the Reclamation Service held meetings at the principal community centers at which the plan was explained and discussed. A canvass of votes showed that the proposition has been rejected by the settlers. This left them facing at the end of the calendar year a probable increase of the annual operation and maintenance charge to remove the deficit, and without any provisions for carrying on future construction and drainage work, a part of which, at any rate, is badly needed.

A comparative statement of the acreage, yield, and value of the more important crops for the years 1919 and 1920 is given in the following table:

Crop	Acres		Total Yield		Average per acre		Value per acre	
	1919	1920	1919	1920	1919	1920	1919	1920
			Tons	Tons				
Alfalfa.....	7,045	7,468	18,713	16,962	2.65	2.27	\$52.22	\$17.94
Summer pastures.	1,389	2,074	---	---	---	---	---	---
Beets.....	1,136	2,330	12,015	14,814	10.58	6.36	105.77	76.29
			Bushels	Bushel				
Oats.....	1,977	1,764	58,707	40,960	29.69	23.32	34.40	15.55
Wheat.....	6,518	5,098	103,149	83,549	15.82	16.38	37.51	23.54
Barley.....	267	324	5,354	4,816	20.05	14.82	33.69	13.25
Corn.....	179	392	5,046	4,441	28.19	11.33	43.11	9.18
Potatoes.....	40	78	4,781	6,449	119.70	82.68	211.55	91.77

The Dairy Industry:--The U. S. Reclamation Service live stock census shows a decrease of 236 in the number of dairy cattle. It should be considered, however, that the dividing line in classifying dairy and beef cattle on the farm is often anything but distinct to the farmer who reports, so that a part of the decrease in the number of dairy stock could easily be accounted for by a change in classification. A part of it is certainly due to the elimination of cows of low production as a result of work done by this office to encourage such elimination. Thirty-two cows are known to have been sold on this account for beef and no doubt there have been others. These considerations added to the fact that very few animals were imported during the year, would indicate that though there may have been a slight decrease in number, quality has improved. Because capital has not been plentiful the efforts of the agriculturist have been directed mainly toward the accomplishment of two objects; (1) the elimination of non-productive milk cows and (2) breeding for the improvement of cattle already owned by farmers. Obviously the results obtained from breeding would not show up as soon as the effects of elimination. Without importation the immediate effect should be a reduction in numbers. The price of hay and other feeds during the winter of 1919-20 and the spring of 1920 was a contributing factor. It required a good cow to pay for her feed at that time and from this cause alone the tendency would have been to eliminate. The prices of both feed and beef have greatly depreciated since the middle of the year. The emphasis is not now being laid upon elimination for with the prices of feed and butter that have prevailed since October 1, a cow giving daily, on an alfalfa ration, two gallons of 3.5% milk has returned a profit above cost of feed and the beef market has offered small temptation to dispose of such. During the winter months owners have been encouraged to milk cows which last year could have been milked only at a loss.

The Holsteins continue to predominate both the grades and pure bred of this breed being much more numerous than those of any other breed of cattle. There are less than a hundred pure bred Holstein females owned by farmers, but breeding cows to other than registered sires is becoming the exception.

The ration of cows is still too often hay alone, although the number of owners who use supplementary feeds, such as beet molasses, grains or silage, is increasing. One of the most encouraging factors is the increase in the number of acres of summer pasture from 1,389 in 1919 to 2,074 in 1920. Two silos were erected, both of the "tongue lok" type. The silage from one of these is being used in sheep feeding and that from the other in the ration for a herd of dairy cows. A record of feed cost and production is being kept for this herd, which is to be compared with records of the same kind kept during the preceeding year when silage was not a part of the ration.

Although the need of better dairy buildings and equipment is realized by many, a short crop and declining prices of farm products have operated to prevent any marked improvement in this direction during the year, and because of these factors and others, among which is the probable increase of the annual operation and maintenance charge, progress is likely to be slow for several years.

A part of the cream produced is sold at Billings, Montana, as sweet cream for which a price much better than that paid by the creameries is realized, and a part goes to several creameries located off the project, but most of it is handled by the Worden Creamery which continues to produce an excellent quality of butter. The following shows the average price of butter fat by months:

January.....	60	July.....	50.4
February.....	60	August.....	53
March.....	65	September.....	59
April.....	67.5	October.....	59
May.....	60	November.....	54.2
June.....	48.6	December.....	47
Average price for the year 57 cents			

Item	1917	1918	1919	1920
Population on farms.....	2,107	1,485	1,885	1,772
Population in towns.....	594	600	664	664
Number of settlers.....	601	549	603	601

Number of farmers having dairy cattle.....	301
Percent of farmers having dairy cattle.....	50
Number having only one cow.....	34
Percent of farmers having only one cow.....	5
Number having 2 to 5 cows.....	186
Percent having 2 to 5 cows.....	31
Number having 6 to 10 cows.....	60
Percent having 6 to 10 cows.....	10
Number having 11 to 15 cows.....	29
Percent having 11 to 15 cows.....	4.3
Number having 16 to 20 cows.....	19
Percent having 16 to 20 cows.....	03.1
Number having 21 to 30 cows.....	2
Percent having 21 to 30 cows.....	.003-1/3
Number having 31 to 40 cows.....	2
Percent having 31 to 40 cows.....	.003-1/3
Largest herd of cows.....	40

LIVESTOCK PRODUCTION.

Item	1917	1918	1919	1920
Beef.....	1,795	1,815	2,631	1,312
Hogs.....	2,363	2,391	3,097	1,885
Sheep.....	1,794	1,130	2,115	2,382
Poultry.....	16,418	15,856	21,456	18,232
Horses.....	2,145	2,120	2,297	2,041
Mules.....	80	51	46	34
Dairy cattle.....	1,949	1,923	2,040	1,804

IMPROVEMENT OF DAIRY CATTLE.

1. Elimination of low producers:-About twenty owners are now testing their herds for butter fat regularly every month, the number having gradually increased since January first, when there were only a half dozen herds being tested. Each one of the twenty owners is also keeping a record of feed consumed and weight of milk produced by each cow on sheets supplied through this office. A part of these farmers complete the monthly summary for themselves, the endeavor being made to have as many do that as are able. The Agriculturist completes the record for the remainder and returns to the owner a monthly summary.

Previous to each testing period sample bottles in containers are distributed to dairymen who take the samples, and a number of them return them to the office without the assistance of the Agriculturist either after they have been tested or before. The balance he collects. The visits made to distribute and collect samples serve also for the inspection of herds, housing, care, feeds and feeding and conferences with owners respecting these matters as well as respecting breeding problems. As has already been stated 32 low-producing cows have been disposed of by owners since the testing of herds has been in progress, though during the past few months because of the low price of feeds as compared with the price of dairy products, no elimination is going on. From 50 to 75 cows are tested by this office each month.

It is planned to assist dairymen to prepare a summary of the monthly reports so that they may have a statement of the cost of feeds, amount of production, returns, and net income of each cow for the year.

2. Breeding for improvement:-The existence of the U. S. Experiment Farm, near Huntley, at which is kept a herd including a number of excellent purebred Holstein cows, as well as a good herd sire, all owned by the Bureau of Animal Industry, has made it possible to put into operation a previously mentioned plan that is highly advantageous to dairymen.

STATEMENT OF THE WORK DONE

NAME	AGE	SEX	RELATION	DATE OF BIRTH
John Smith	25	M	Son	1875
Mary Jones	22	F	Daughter	1878
Robert Brown	20	M	Son	1880
Elizabeth White	18	F	Daughter	1882
William Black	15	M	Son	1885
Anna Green	12	F	Daughter	1888
Thomas Grey	10	M	Son	1890
Sarah Hall	8	F	Daughter	1892
Charles King	6	M	Son	1895
Lucy Lee	4	F	Daughter	1898

STATEMENT OF THE WORK DONE

The first object of the present inquiry was to ascertain the state of health of the family at the beginning of the year 1900. For this purpose a careful examination was made of the family records, and the following facts were ascertained:—

That the family had been healthy and free from disease during the year 1899, and that the children had all attained the age of five years or upwards. It was also ascertained that the mother had been free from disease during the year 1899, and that the father had been free from disease during the year 1899.

The second object of the present inquiry was to ascertain the state of health of the family at the beginning of the year 1900. For this purpose a careful examination was made of the family records, and the following facts were ascertained:—

That the family had been healthy and free from disease during the year 1900, and that the children had all attained the age of five years or upwards. It was also ascertained that the mother had been free from disease during the year 1900, and that the father had been free from disease during the year 1900.

The third object of the present inquiry was to ascertain the state of health of the family at the beginning of the year 1900. For this purpose a careful examination was made of the family records, and the following facts were ascertained:—

That the family had been healthy and free from disease during the year 1900, and that the children had all attained the age of five years or upwards. It was also ascertained that the mother had been free from disease during the year 1900, and that the father had been free from disease during the year 1900.

The fourth object of the present inquiry was to ascertain the state of health of the family at the beginning of the year 1900. For this purpose a careful examination was made of the family records, and the following facts were ascertained:—

That the family had been healthy and free from disease during the year 1900, and that the children had all attained the age of five years or upwards. It was also ascertained that the mother had been free from disease during the year 1900, and that the father had been free from disease during the year 1900.

Farmers who wish to improve their herds are permitted to take bull calves from Government owned cows when they reach a breeding age and use them without cost excepting the expense of feed and care. Generally one farmer does not have enough cows to use the bull to his capacity, in which event two or more cooperate. Usually the sire is kept, fed, and cared for by one farmer, the other cooperators either paying a share of the expenses proportionate to the number of females bred or else paying a service fee to the first one, that is to the care taker.

Before a dairyman can secure the use of a bull he must sign a written agreement, as the purpose of the Bureau is not only to benefit him but to test out the ability of the bulls. The essential provisions of the agreement are as follows: (1) That the dairyman shall feed and care for at his own expense and in such manner as the Bureau of Animal Industry may deem proper, shall mate the bull only with such cows as shall be mutually agreed upon and mate him with outside animals only upon obtaining permission in writing from the Bureau; (2) That he shall keep his herd free from tuberculosis by animal testing by the Bureau and promptly remove or isolate all reactors; (3) He shall keep accurate milk records of all cows with which the bull is mated, test the milk of each cow monthly for butter fat, and keep accurate records as to dates of breeding and calving; (4) He shall mate the bull with his daughters for one generation if the Bureau so elects, and retain all daughters in the herd until they have finished at least one lactation period unless the disposal of such daughters is approved by the Bureau; (5) He shall keep accurate milk records of all daughters of the bull and test the milk of each daughter monthly for butter fat; and (6) He shall return the bull in good condition at the termination of the agreement.

At present 7 of these bulls are on farms and they are used on about 20 herds comprising, approximately, 150 cows. The Agriculturist has tried to cooperate with the Bureau and the Experiment Farm as fully as possible, especially in the matter of milk testing, tuberculosis testing, and the encouragement of proper feeding, care and use of bulls.

OTHER LIVESTOCK INDUSTRIES.

The greater number of sheep on December 31, 1920 than at the end of 1919 is not due to growth in sheep breeding but to the presence of feeders purchased by farmers or secured on contract. The decrease in all other classes of live stock and poultry was caused by difficulties experienced during the winter of 1919-20 and the general and heavy losses resulting from a feeding period characterized by high costs followed by a big decline in the value of salable products. Owners of both hogs and cattle lost especially so much that marked discouragement followed, leading to a curtailment of production.

No new cooperative enterprise has been started during the year and the Ballantine Dairy Products Association suspended operations in the spring because of a lack of patronage and has not yet resumed business. The Ballantine Grain Association purchased grain continuously throughout the season and it is thought to have been the means of securing to producers a price considerably better than would have otherwise been received. The farmers cooperative store at Worden and the Project Supply Company at Osborn carried on activities, the former doing as large a volume of business as in previous years, and the latter, which is scarcely two years old, confined its transactions chiefly to the purchase of coal, feeds, and fruit, and the sale of hay and livestock.

The Agriculturist assisted in the cooperative shipment of five car loads of cattle independently of any permanent organization, but as the stock was all sold on a falling market, the benefit secured from such shipments, though real, was not always appreciated by the co-operators.

TENDENCIES AND NEEDS.

If conditions and prices become stable it is to be expected that livestock production will be increased. Hogs, however, will be the slowest to respond. The food production demanded by the war, the guaranteed price of wheat, and the high prices prevailing during the war and for sometime afterward resulted too often in the breaking up of established rotations, and a serious interference with progressive agriculture. Indeed, before the war, it is likely that the kind of seed put into the ground was too frequently determined by the farmers' fancied ability to forecast what price that particular crop would bring at harvest time. What is needed here now more than anything else, I believe, is that farmers generally shall adopt a system of farming adapted to the conditions and follow that system for a term of years with the object in mind not only of securing immediate returns, but gradually increasing yearly production, that is, that they cease sacrificing future prospects for immediate profits, and center attention upon constructive agriculture. Naturally such a system will in most cases include the production or feeding of some kind of livestock along with a well considered rotation of crops.

ACTIVITIES.

Activities have already been discussed to some extent along with the several industries and such need not be repeated here.

Throughout the year the Agriculturist cooperated with Dr. Neill Plank, an inspector of the Bureau of Animal Industry in the testing of all cows upon which government owned bulls are used, and during the latter part of the year in a campaign, the results of which it is hoped will be the elimination of tuberculosis from the project. During October 300 Farmers' Bulletins entitled "Tuberculosis in Live Stock, Detection, Control and Eradication" were distributed, publicity of the

object and plan of the campaign was given in the local papers, and letters mailed to disseminate information and stimulate interest in eradication. Unfortunately, when about 300 cattle had been tested and about one-third of the area had been covered, the inspector was called away. The work will be continued as soon as practicable. A growing list of names of farmers who have asked for a test constitute evidence that interest in this undertaking is considerable.

Since February, 1919, about 800 animals have been tested, and 13 herds have been placed on the accredited list.

For the benefit of buyers and sellers of livestock a list of all animals tested is kept in this office.

At all times the Agriculturist is called upon to give much time to miscellaneous veterinary matters. When the local veterinarian is not away or sick, activities of this nature are limited to giving advice respecting feeding, care, etc., excepting such simple diseased conditions as a farmer can and should attend to himself. The treatment of small abscesses and cysts, the castration of small animals, the removal of the placenta, vaccination against blackleg, and other simple treatments and operations have been demonstrated.

SUMMARY OF ACTIVITIES.

Number of conferences attended.....	351
Number of farm visits made.....	581
Number of requests for assistance.....	615
Number of samples of milk and cream tested.....	518
Number of autopsies performed.....	21
Number of demonstrations made.....	29
(1) Number of animals treated.....	119
(2) Number of farmers instructed.....	60
Number of public sales attended.....	13
Number of meetings attended.....	16
(1) Attendance.....	1,168
Number of articles prepared for newspapers.....	13
Number of miles traveled by auto.....	3985
Average price of gasoline.....	35-5/11¢
Number of herd summaries prepared and mailed to owners.....	75
Number of general summaries of all herds under test.....	8
Number of livestock shows conducted.....	2

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII

January 22, 1921

No. 4

AGRICULTURAL DEVELOPMENT ON THE UNCOMPAGRE RECLAMATION

PROJECT IN 1920

By H. A. Ireland, Agriculturist.

GENERAL

The work of the Office of Demonstrations on Reclamation Projects on the Uncompagre Reclamation Project was discontinued October 1, 1919 with the resignation of H. A. Lindgren and was resumed February 1, 1920 along the same general lines as it had been previously conducted. The office has enjoyed the cooperation of the Reclamation Service, the Forest Service, the State Agricultural College, and the local County Agents.

Since the establishment of the office it has been maintained in the Reclamation Service building but in October of this year, for greater convenience, it was moved to a room adjoining that occupied by the Montrose County Agent. The new arrangement has proved much more satisfactory than the former in every way.

THE UNCOMPAGRE PROJECT

The project includes 84,460 acres of irrigable land of which 63,786 acres were cultivated and watered this year. This area, compared with 60,906 acres irrigated in 1919 was divided as follows.

Crop	Value		Acres	
	1919	1920	1919	1920
Alfalfa.....	\$923,870	\$821,576	23,456	25,526
Apples.....	138,624	352,372	2,191	1,830
Barley.....	10,703	5,065	347	184
Corn.....	98,407	72,817	2,331	2,239
Oats.....	166,738	146,529	5,500	5,378
Pasture.....	32,124	37,732	5,080	7,007
Potatoes.....	1,122,565	871,999	6,878	6,166
Sugar Beets.....	140,633	389,103	1,703	4,800
Wheat.....	540,164	496,247	11,385	10,809

... ..

The project included the design of a new building for the school, which was completed in 1967. The building was designed by the architect [Name] and was built by the contractor [Name]. The building was constructed of brick and concrete and featured a modern design with large windows and a flat roof. The building was located on the corner of [Street] and [Street] in [City].

VALUE OF CROPS AND AVERAGE VALUE PER ACRE

1918		1919		1920	
Total	Average	Total	Average	Total	Average
\$3,302,460	\$57.62	\$3,391,456	\$56.76	\$3,397,493	\$53.64

NUMBER OF FARMS REPORTED

1918	1919	1920
1514	1526	1588

The general status of the various livestock industries is indicated by the following figures taken from the annual reports of the local office of the Reclamation Service.

Class of Stock	1919		1920	
	Number	Value	Number	Value
Horses.....	5,860	\$583,840	6,119	\$591,595
Mules.....	253	30,565	1,090	27,605
Beef cattle.....	11,435	512,588	12,229	442,696
Dairy cattle.....	3,727	252,570	3,245	239,250
Sheep.....	14,111	143,854	10,756	74,864
Hogs.....	11,432	151,880	8,934	104,866
Registered bulls.....	76	19,325	125	54,112
Totals.....	-----	1,694,622	-----	1,534,988

The accuracy of these figures is open to question due to carelessness on the part of the census taker or to an unwillingness on the part of livestock owners to report all of their stock. This is especially true of sheep and beef cattle.

DAIRYING

Status of the Industry.--The present condition of the dairy industry is represented by the figures given under "population". In general it has not been satisfactory for the year although local buyers of butterfat report a somewhat larger production than for the previous year. As is usual in such cases, the degree of prosperity in the country has caused a general shifting of stock in which there has been some reduction in the number on the project. Several of the best herds of the valley have been disposed of during this period of unrest and others are being offered for sale. In the latter part of

the year there has been noticed some increased interest in dairying due probably to a slow market for hay and low prices being paid for almost all farm products. Prices of dairy stock have declined with prices of other stock, but money is scarce, producing a condition of owners being reluctant to sell and prospective purchasers being unable to buy.

It has been difficult, under such circumstances, for this office to do more than use such influence as was possible through published articles, personal conferences, talks at meetings, etc., to prevent those engaged in dairying from making unnecessary changes and to interest others in the business. The apparent results of these efforts have been small. Assistance has been given whenever requested in the selection and sale of cows.

Population.--Only 817 farms on the project report any dairy cows at all. Of these, 737 report from one to five head of breeding females, 55 report from six to ten head, and 25 report over ten head. Of the first class, the majority of farms have only one or two cows kept for family use. Reports in this office for 1916-1917 show considerable importations of dairy stock for those years to meet the demand for that class of stock. There have been no such importations this year aside from a few animals sold into the project from adjacent territory. Probably an equal number of cows have been sold to go off of the project, one entire herd of purebred Holsteins having left the project in this way.

Breeds and Breeding.--A report of breeding practices shows some possible reasons why dairying is not popular here. The average cow on the project is not a profitable one to keep, while those below the average are actual liabilities to their owners, and there has been no general effort made toward better sires as indicated by the following figures showing the distribution of breed, comparison being made with 1917:

Breed reported	Number Farms		Number Purebreds		Farms owning purebred bulls	
	1917	1920	1917	1920	1917	1920
Jersey...	...	275	0	61	6	5
Holstein.	...	172	50	111	30	20
Guernsey.	...	15	2	12	3	4
*Shorthorn	...	158

*Mostly range stock,

In addition to the above it is noted that a total of 62 farms use purebred Holstein bulls, 28 use purebred Jerseys, and 10 use purebred Guernseys; 155 farms report the use of grade bulls of which 85 are Jerseys and 70 Holsteins. Of 817 farms reporting only 12%

report the use of purebred dairy bulls.

Emphasis has been placed on the necessity of better bulls through meetings, publications, etc. and assistance has been given with two bull clubs in addition to the selection of a few bulls for individual farmers.

One bull club was organized just off of the project to which some assistance was given in organization and in the selection of a bull in cooperation with the County Agents of Montrose and Delta counties. The association or club organized at Montrose by Mr. Lindgren has been encouraged to continue although only 19 of the 57 shares of stock sold remain in use. The association bull has served only 13 cows in the past five months and the members of the organization have but little interest in it. Unfortunately, heifers sired by this bull are not

"making good" and the bull will be sold. An effort will be made to have him replaced by a better bull through the association as there is no other good bull in the locality.

Herd Improvement.--Work done in this connection has consisted of milk tests run for individuals and assistance given with Messrs. King, and Yeager, in organizing and supervising a testing association of breeders of purebred dairy cattle. This association was organized for the purpose of having monthly official tests made on any purebred herds desiring them at a minimum cost by employing a regular tester on full time. This work has resulted in two seven-day records above 30 pounds of butter in the Holstein herd of Loesch Brothers, besides advanced register records on several two-year-old heifers; a seven-day advanced register record on a junior two-year-old for A. C. Nash, and tests leading to yearly records for advanced registry in six herds. Private tests conducted with one herd of grade Holsteins caused these cows to sell as high as \$252.50 per head when the herd was disposed of, the average price for the herd, which included several dry cows being \$183 which was considered a remarkably good price for grade cows. It is hoped that more of this kind of work can be done as soon as conditions become more settled.

Feeds and Feeding.--The feeding problem was a serious one during the first half of the year. Cold weather and storms continued so late in the spring that the supply of hay and silage was entirely exhausted and prices of grain feeds were prohibitive. The result was that most of the dairy stock as well as other stock was badly underfed until after the first crop of alfalfa was harvested. This condition would seem to emphasize the need of silos and grass pastures. Considerable work has been done to encourage the seeding of pastures, and some results are apparent. Pasture acreage has increased by 1,927 acres over last year and part of this increase has probably been due to the work of this office. Five men have signified their intentions of seeding pastures next year. The pastures already in use vary in size from patches of an acre or so to 100 acres. Most of them that have been observed are in fairly good condition and are yielding satisfactory returns.

The increase in the number of silos on the project has formerly been included in the program of the Agriculturist. A special report on the subject made in 1917, showed 61 silos on the project, 29 of which were built that year. The same report contains an estimate of 625 acres of silage crops grown in 1917, yielding an average of 8.5 tons per acre.

A survey made this year by the Reclamation Service shows only 56 silos on the project, 25 of which were not filled this year. The same survey shows 308 acres of silage crop in 1920 to have produced 1,980 tons of silage, or an average of 6.5 tons per acre. It should be noted, however, that the latter estimate of tonnage was made from recent silo-capacity tables which are lower than those in use in 1917. A circular letter sent to silo owners who did not fill their silos this year has been answered generally by the statement that silage could not be made to sell at any profit considering the price received for silage and the cost of labor. Some farmers stated that silage cannot be fed with any profit at its present cost of production. Silos have not been one of the projects of the Demonstration office this year as it was felt that sufficient impetus had been given to silo building. However, where circumstances have seemed to warrant it, silos have been advocated, stress being laid on the necessity of taking all possible steps to assure a satisfactory yield of silage crop. Corn is the commonest crop grown for this purpose and its average yield is too low. Sunflowers have been used in a number of instances and while they yield better than corn and have given nearly as good results as a feed they are so unpleasant to handle that they are not grown at all commonly. Grain feeding has been practiced to only a small extent in some of the best herds as grain prices have been too high to make it profitable.

Equipment.--There is considerable need for more and better equipment in the way of barns and facilities for caring for manure but there has been no building of any consequence since the advance in cost of building materials and labor. The difficulty of securing satisfactory labor for reasonable prices has emphasized the need for milking machines but as yet there is only one in use on the project, this being located on the farm of Loesch Brothers. There is another on the Artt Brothers farm near Delta. Purebred Holsteins are kept on both of these farms and both herds have been on official tests. The machines are giving good results.

Disease.--There is some contagious abortion on the project and some losses have been experienced from hemorrhagic septicemia. Tuberculin tests discovered several reactors on Loesch Brothers' farm where the Department of Agriculture has since conducted tests which have resulted in placing the herd on the accredited list. It may be assumed that tuberculosis is more or less prevalent and tuberculin testing has been and will be encouraged. The Western Slope Purebred Livestock Breeders' Association has included a tuberculosis-eradication campaign

in its program and will endeavor to secure state cooperation with the U. S. Department of Agriculture in this work.

Production and Marketing.--Reports have been received from The Delta Creamery, The Montrose Creamery, The Valley Ice Cream Company, Montrose, and two cream stations at Olathe, which ship to creameries at Grand Junction and Salt Lake. These furnish the market for practically all of the butterfat and considerable of the milk produced on the project. They also draw to some extent from territory outside of the project. Figures submitted by these concerns show the production and range of prices as follows:

Creamery Company	Pounds Butterfat	Price			Total
		Low	High	Average	
Delta Creamery.....	23,586	51	66-1/4	57.4	\$13,455.76
*Montrose Creamery.....	97,926	55	69	59.4	57,815.86
*Valley Ice Cream Co.....	27,320	55	69	59.4	18,491.26
Olathe Stations.....	8,034			64.6	5,198.10
Totals.....	156,866	\$94,960.98

*These figures include retail milk which is sold in bottles at 10¢ per quart or 12-1/2¢ delivered. The price to the producer has been 25¢ per gallon throughout the year with little consideration of test.

Relation to Other Industries.--Dairying bears a definite relationship to crop production and to hog raising although this relationship is not particularly recognized here at the present time. The industry would become more stable and of greater importance if farmers could be convinced that this relationship is essential.

Cooperative features.--Aside from the two bull clubs mentioned there has been but little cooperative effort in any line this year and no particular need for it in other lines has been felt under present conditions. A cow testing association after the usual plan was considered but found to be impracticable because of the size of the herds.

Future Development.--The future of the dairy industry in the Uncompahgre Valley is uncertain because of the fact that there are relatively few dairymen here. There will probably be periods of increased interest in the business followed by periods of depression until something occurs to encourage men who are dairymen by training and choice to locate here in greater numbers or to cause present occupants of the land through unusual inducements to engage in dairying on a real business basis.

in the present case will be taken as the basis of the calculation of the value of the property.

The following table shows the results of the calculation of the value of the property in the present case. The results are given in the following table.

Description of Property	Value			Total
	Land	Buildings	Other	
Land	100.00			100.00
Buildings		50.00		50.00
Other			10.00	10.00
Total	100.00	50.00	10.00	160.00

The results of the calculation of the value of the property in the present case are given in the following table.

The results of the calculation of the value of the property in the present case are given in the following table.

The results of the calculation of the value of the property in the present case are given in the following table.

The results of the calculation of the value of the property in the present case are given in the following table.

THE SWINE INDUSTRY

Hog raising on the project has almost touched the bottom. Lower prices for pork throughout the year, with extremely high price for feed up to the past month and the increase in freight rates and poor shipping service, have combined to produce a decided sentiment against the industry which it has been impossible to check. When, as has been the case, a feeder finds by test that with the best feeds available gains are costing more at home than he could get for his hogs in Denver he is not an enthusiastic listener to arguments in favor of staying with the business.

Since the first of the year the general trend is represented by the following changes: One breeder disposed of his herd and is clerking in a store; another sold his hogs and cows to take up auctioneering; another sold his hogs and cows to go into a garage; another sold his hogs to retire; two others sold their hogs to get rid of them, and another sold his hogs to go into the practice of law. All of these were old breeders of purebred Duroc-Jerseys. At the present time there is not a real, substantial breeder of purebred hogs left on the project.

On account of the enormous crop of apples, thousands of bushels of which were left in the orchards, there was considerable demand for hogs to eat the waste but the demand could not be supplied.

Population.--The Reclamation Service census shows 8,934 hogs on the project as compared with 11,432 in 1919. Only 393 farms report any brood sows although the majority of farms report hogs of some kind. Three hundred and sixty farms report one to five brood sows, 21 report six to ten, and 12 report more than ten.

Breeds and Breeding.--There are four breeds represented, Duroc-Jersey, Poland China, Berkshire and Chester White, the first two being the only ones of importance from the standpoint of number, as shown below:

Breed	Number Farms	Purebred females	Purebred boars	
			Farms	
			Using	Owning
Poland China.....	147	51	30	14
Duroc-Jersey.....	192	113	45	22
Other breeds.....	17	12	2	2

The disposal of most of the established herds of purebred hogs has caused this stock to be scattered among the farmers. This should result in a general improvement of the hogs on the project although it may not advance the interests of purebred stock as many of the purchasers are not concerned with registration certificates. However, this may lead to the development of some real breeders and good herds.

Considerable interest has been aroused in purebred stock among farmers by the work of the boys' and girls' pig club, several new herds having been started in this way.

Feeds and Feeding.--It is felt that in more careful attention to the feeding program lies the secret of the success or failure of hog raising. The more general and better use of alfalfa pasture has been especially urged on all occasions. The planting of special crops to be hogged-off has also been advocated although it has not been practiced to a great extent this year. One farmer put out a patch of peas for a test but failed to get results because of poor seed and another planted corn to be pastured in connection with his orchard.

One small feeding test was run with a farmer who was using commercial condensed buttermilk and imported corn. Fairly good results were obtained considering the inferior quality of the corn, 327 pounds of corn and 57 pounds of buttermilk producing 100 pounds gain on hogs weighing around 100 pounds, kept in a dry lot without other feed. The cost of gains was 12.4¢ per pound. One feeder was using ground wild oats which he bought from the mill at 80¢ to \$1.00 per cwt. A test to determine the value of this feed which is available in considerable quantities was planned but could not be carried out.

The question whether it is more profitable to finish hogs for market here or sell them as feeders is still being asked. Until recently there has been no chance to feed out without an actual loss. At this time the price of wheat is such, in relation to the price of hogs, that feeders could not finish for market with a profit. Corn at the end of the year may be shipped in in car lots at such a price that it can be fed profitably although this is not being done extensively. Some growers and dealers believe that all hogs should be shipped away from the Western Slope to be finished.

Equipment.--There is an evident need of better equipment for hog raising in the way of fences, houses and feeders, but no effort has been made this year to promote building because of the prohibitive cost of construction. This is one of the things to be kept in mind in connection with future work with the swine industry.

Diseases.--There has been but little disease among hogs on the project this year. Probably a general practice of vaccination against cholera and hemorrhagic septicemia is largely responsible for this. In the latter part of February a severe outbreak of cholera occurred in one herd of garbage-fed hogs near Montrose. The farm on which the disease appeared was visited with the County Agent after the herd had been treated by a local veterinarian and found to be in an extremely unsanitary condition. The owner was urged to clean the premises, burn all dead hogs, etc., neighbors were warned, and the State Veterinarian was notified and taken to the farm. The disease did not

Published weekly, except during the summer months, when it is published bi-weekly. The subscription price is \$5.00 per annum in advance. Single copies are sold at 15 cents. The office is at 535 North Dearborn Street, Chicago, Ill.

The Journal is published for the American Medical Association, of which it is the official organ. It is published by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. The Journal is published for the American Medical Association, of which it is the official organ. It is published by the American Medical Association, 535 North Dearborn Street, Chicago, Ill.

The Journal is published for the American Medical Association, of which it is the official organ. It is published by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. The Journal is published for the American Medical Association, of which it is the official organ. It is published by the American Medical Association, 535 North Dearborn Street, Chicago, Ill.

The Journal is published for the American Medical Association, of which it is the official organ. It is published by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. The Journal is published for the American Medical Association, of which it is the official organ. It is published by the American Medical Association, 535 North Dearborn Street, Chicago, Ill.

The Journal is published for the American Medical Association, of which it is the official organ. It is published by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. The Journal is published for the American Medical Association, of which it is the official organ. It is published by the American Medical Association, 535 North Dearborn Street, Chicago, Ill.

The Journal is published for the American Medical Association, of which it is the official organ. It is published by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. The Journal is published for the American Medical Association, of which it is the official organ. It is published by the American Medical Association, 535 North Dearborn Street, Chicago, Ill.

spread although the owner of the herd lost about 100 hogs out of 120. Later, cholera was found on another farm near Montrose but the herd was treated at once by the veterinarian of the local veterinary association and the trouble was checked at once.

Markets.---Practically all the hogs shipped out of the valley go to Denver which has been practically on a par with central and eastern markets during the year as far as prices paid are concerned. Olathe has been the heaviest shipper although only 20 cars have gone out of there; 19 to Denver and one to Kansas City. Several cars of these have been feeders shipped by a farmer-dealer. Montrose has shipped but four cars, and Delta has shipped 25 cars. The shipments compared with 139 cars shipped in 1917, indicate the low ebb of the industry.

Cooperative shipments have been made from Montrose through the Grange, from Delta through the Farmers' Union, and from Olathe through a cooperative association. The Grange has shipped for one per cent of the selling price and the Olathe association for ten cents per cwt. A report from this association dated June 30 since when but few shipments have been made shows 24 cars of stock shipped from November 19, 1919 to that date, the stock included having a value of \$45,323.69. The manager was paid \$364.95 and the shipments are estimated to have resulted in a gain of \$3,500 to the farmers. All possible assistance has been given these cooperative shipments in locating stock, etc. With the Livestock Specialist of the Extension office, all the agencies engaged in cooperative shipping on or near the project were visited with a view of forming a county or valley association under one manager. This was found to be impracticable at this time on account of the unwillingness of the agencies to combine.

Prices on the Denver market ranged from around 15¢ for tops the early part of the year to \$18.35 in the fall, from which they have declined to \$10.30 by December 1st, and on December 20th to \$9.00. There have been about 25,000 hogs less at Denver than for the same period in 1919.

The increase of freight rates is having its effect on the industry. A 36-foot car to Denver now costs \$115.50, plus 3%.

Pig Clubs.---Early in the spring of this year the organization of a number of boys' and girls' pig clubs was undertaken with the County Agent. Schools were visited and club work in general explained. No one was urged to join clubs but emphasis was placed on the importance of finishing the work outlined if it was undertaken. Twenty-two boys and girls really started the work and seventeen of them completed it, exhibiting their pigs at the Montrose fair. The other five carried the work up to the point of exhibiting at the fair. All the pigs used were purebred and registered, three being Poland Chinas and the others Duroc-Jerseys, nearly all of which were secured for the members with the assistance of the County Agent. Meetings were held with the clubs as often as convenient and instructions in stock judging given.

1. The first of these is the fact that the local population of the area is very small. This is due to the fact that the area is very remote and is not accessible by road. The only way to reach the area is by air or by boat. This makes it difficult for the local population to get to the area and for the area to be developed.

1940

THE UNIVERSITY OF CHICAGO LIBRARY

[illegible]

A judging contest was held at the local fair, the three contestants scoring highest being taken to the State Fair at Pueblo, where they won fourth place in competition with 16 other teams. One member of the Montrose team was a girl who won seventh place in the state contest.

The results of the club work were very gratifying and the work will be enlarged next year if possible.

THE SHEEP INDUSTRY

General Status.--Sheep raising has been one of the most popular industries on the project although it has been in the hands of a comparatively few men who own bands of 1,000 or more head each which are ranged on the forest reserves or public domain. Ranch flocks have been supposed to be on the increase although the 1920 Reclamation Service census shows fewer such flocks than were reported in 1917.

The sudden and complete collapse of the wool market which came when but little wool here had been sold, together with unusually high expenses for feed and labor and heavy losses in the lamb crop due to late storms, caused wool growers to become badly discouraged and many of them are said to be in serious financial straits. Prices of breeding stock have declined to about one-third of last year's values.

Population.--The range bands will total approximately 100,000 head. Ranch flocks are not significant in point of number, most of them being small. The census shows 20 flocks of 25 head or less, 7 flocks from 26 to 50, and 8 above 50 head. These figures are believed to be incomplete.

Breeds and Breeding.--There are a few flocks of purebred sheep on the project, including two small bunches of very good Hampshires, one of Rambouillets and two of Cotswolds. Five farms report the use of purebred, fine-wool rams, 4 of purebred middle-wools, and 10 of purebred long-wools.

One of the Hampshire breeders purchased a ram from the Kansas Agricultural College but lost it just after the breeding season. Good rams are in service in most of the range bands but there is room for much improvement in this respect.

Feeds and Feeding.--There is little winter feeding done for market. Breeding bands are kept on outlying ranges as long as the weather permits and then kept on hay with sometimes the addition of silage. In summer they are run upon the mountain ranges. Ranch flocks are pretty generally kept on irrigated pasture without other feed. In a few cases some grain is fed. Beet tops are used to some extent for sheep and the pulp from the sugar factory will also be used in a small way.

Marketing.--Nearly all the lambs are shipped to market from the

The Journal of the Royal Society of Medicine is a quarterly journal of medicine and surgery. It is published by the Royal Society of Medicine, 11, Bedford Square, London, W.C.1. The Journal is published in four parts, each containing original research, reviews, and clinical reports. The Journal is a valuable source of information for medical practitioners and students.

The Journal of the Royal Society of Medicine is a quarterly journal of medicine and surgery. It is published by the Royal Society of Medicine, 11, Bedford Square, London, W.C.1. The Journal is published in four parts, each containing original research, reviews, and clinical reports. The Journal is a valuable source of information for medical practitioners and students.

THE JOURNAL OF THE

The Journal of the Royal Society of Medicine is a quarterly journal of medicine and surgery. It is published by the Royal Society of Medicine, 11, Bedford Square, London, W.C.1. The Journal is published in four parts, each containing original research, reviews, and clinical reports. The Journal is a valuable source of information for medical practitioners and students.

The Journal of the Royal Society of Medicine is a quarterly journal of medicine and surgery. It is published by the Royal Society of Medicine, 11, Bedford Square, London, W.C.1. The Journal is published in four parts, each containing original research, reviews, and clinical reports. The Journal is a valuable source of information for medical practitioners and students.

The Journal of the Royal Society of Medicine is a quarterly journal of medicine and surgery. It is published by the Royal Society of Medicine, 11, Bedford Square, London, W.C.1. The Journal is published in four parts, each containing original research, reviews, and clinical reports. The Journal is a valuable source of information for medical practitioners and students.

The Journal of the Royal Society of Medicine is a quarterly journal of medicine and surgery. It is published by the Royal Society of Medicine, 11, Bedford Square, London, W.C.1. The Journal is published in four parts, each containing original research, reviews, and clinical reports. The Journal is a valuable source of information for medical practitioners and students.

The Journal of the Royal Society of Medicine is a quarterly journal of medicine and surgery. It is published by the Royal Society of Medicine, 11, Bedford Square, London, W.C.1. The Journal is published in four parts, each containing original research, reviews, and clinical reports. The Journal is a valuable source of information for medical practitioners and students.

The Journal of the Royal Society of Medicine is a quarterly journal of medicine and surgery. It is published by the Royal Society of Medicine, 11, Bedford Square, London, W.C.1. The Journal is published in four parts, each containing original research, reviews, and clinical reports. The Journal is a valuable source of information for medical practitioners and students.

range and sold as feeders. Eighty-two cars, mostly lambs have gone out of Montrose this year and 21 cars from Delta.

Wool has formerly been bought by local dealers or by representatives of eastern merchants but this year most of it still remains unsold. A pool of ranch wool was formed at Montrose and Delta including about 60 lots ranging from 17 pounds to 5,888 pounds and aggregating 37,647 pounds. This wool was shipped on consignment to a commission house in Kansas City where it is still in storage. It was graded in October but no bids have been submitted for it. Some of this wool could have been sold locally for as much as 52¢ per pound, the same wool being quoted at about 10¢.

Relation to other Industries.--Aside from the utilization of adjacent ranges by large bands, which is essentially a separate industry from the raising of farm flocks, sheep raising on the project bears an important relation to range grazing in the breeding of purebred rams for distribution among range users. It also has a definite relation to crop production in the utilization of waste, weed control, etc. Farm pastures in connection with the industry may be considered essential and must be promoted before sheep raising can become general on the farms of the project. The development of the industry depends mainly on these relationships.

Cooperative Features.--The wool pools have been the most extensive enterprise undertaken cooperatively. The pools have been a failure from the standpoint of a few men who had an opportunity to sell their wool, however, only a small part of the wool in the pools could have been so sold as it was not sheared when the market broke. To the owners of this wool the pools were an advantage through the opportunity they afforded of shipping the wool to the market in carload lots and having it handled by the commission house as one consignment. Generally the members of the pools are submitting to the existing conditions without much comment. There have been two or three small grazing pools on the project which have been handled entirely by the men interested without outside assistance although this office and the County Agent's office have done something to encourage them and locate flocks to be included in the pools.

Assistance was given in the purchase of one small flock of purebred Rambouillets, one band of 500 grade-ewes, and the Hampshire ram referred to previously.

THE BEEF CATTLE INDUSTRY

There has been but little change noted in connection with beef production although cattle growers have shared in the general discouragement of the past few months. Their expenses have been relatively lighter than those of the sheep men and their losses have been smaller so that while many of them are in debt, the most of them will be able to hold out.

Beef production is almost exclusively a range industry, the cattle being fed on the farms only through the winter months. Last spring was very unfavorable to cattle men because of the scarcity and high price of feed and late storms which occurred after many cattle had been turned on the ranges, but the present fall has been favorable, warm weather and an abundance of cheap feed enabling growers to keep their herds at small expense.

Population.--Twelve thousand two hundred and twenty nine head of beef cattle were reported this year as compared with 11,435 in 1919. A large proportion of these are breeding cows, steers having been sold off pretty close this fall.

Breeds and Breeding.--Herfords and Shorthorns are the only breeds represented, these being about equally divided. There are not a great many purebreds of either breed, the majority of bulls in use being grades or unregistered purebreds. The state law does not require the use of purebred bulls on the range but many cattle owners have used purebred bulls and the quality of the beef stock averages high. A recent sale of young purebred Hereford bulls held at Montrose was well attended and the stock sold exceptionally well compared with prices paid for other classes of stock. Prices ranged from \$135 to \$700, averaging \$236 for about 30 head of bulls, nearly all of which were yearlings in only fair condition. The sale showed a gratifying demand for good bulls in view of the present depression.

A little work has been done among cattle men in selection of bulls, etc., especially looking to the establishment of purebred farm herds to produce bulls for use on the ranges, anticipating the time when state law will require that bulls on the ranges shall be purebred and registered.

Feeds and Feeding.--Fall pasturage of alfalfa and beet fields is the common practice during open weather. Hay and silage have been the common winter feeds but as shown under the subject of silos silage will not be used extensively this year. Near Delta, beet pulp will take the place of silage to some extent. One feeder is planning to haul for 12 miles to feed to steers. When hay has been scarce stock cattle have been wintered on straw and cotton-seed meal with good results.

Probably less feeding for market than usual is being done this year. A few feeders are finishing out some of their cows to cull or reduce their herds and some feeder-cows have been brought in from the outside. Frequent requests for information on feeding have been received and assistance given in the selection of two cars of feeders.

Disease.--More than the usual loss on parts of the range is reported this year whether from poisoning or some infection is not known. Early in the spring there was some loss in the valley thought to be

caused by hemorrhagic septicemia, although the circumstances indicated the possibility of whorled milkweed poisoning.

Marketing.--Nine cars of cattle have been shipped from Olathe, 222 cars from Montrose and 59 cars from Delta. These shipments have gone to Denver and Kansas City. Nearly all shipments are made in the fall, steers and fat cows being gathered sometime before the breeding herds are brought down. Some difficulty in securing cars has resulted from the heavy demand. Prices for beef have been unsatisfactory this fall, top prices for steers ranging from \$9 to \$10.

Future of the Industry.--Beef production is bound to continue as one of the leading industries of the valley because of the abundance of easily accessible range. In its relation to hay growing and beet growing it is of especial importance, furnishing, as it does, the principal for hay and by-products of sugar manufacture. Excessive freight rates, and the possibility of an increase of grazing fees on the National Forests, are tending to cause some growers to reduce or even close out their herds but these things are not considered sufficiently serious obstacles to affect the industry materially for more than a short time. Legislation requiring that all bulls on the ranges be purebred and registered is to come up before the next session of the state legislature. If the bill passes it should result in more rapid improvement of the beef cattle on the project as well as the establishment of farm herds of purebred stock.

MISCELLANEOUS

Livestock Health Protective Association.--This organization which was formed in 1919 has been of considerable value to the livestock interests of the upper part of the project. It has been fortunate in securing the services of a capable, conscientious veterinarian who has had much to do with the growth and stability of the association and which now has a membership of 173. The organization is entirely self-supporting and self-governing although this office, under Mr. Lindgren and the county agents' office, have given it a great deal of assistance. A similar organization for the lower end of the project is one of the things to be considered for next year.

Western Slope Fair.--Considerable time has been devoted to the local fair, this office having been given charge of the livestock department. As an institution the fair has been placed on a better basis than formerly, the county having purchased the grounds, expecting to make some permanent improvements. Some cattle sheds were built this year and plans for a hog house were submitted but the house was not built because of a lack of funds. It is expected that this improvement will be made next year.

Work with the fair will be continued as it is believed to be well worth the time it requires.

of the possibility of being able to

The above information was obtained from the records of the Bureau of Customs at New York City.

The first of the subjects - the question of the right to
 one of the leading authorities of the country
 of a well known character. In the relation to the
 existing it is not only a question of the right
 which has been the subject of the most
 cases, and the possibility of an increase of the
 towards the question of the right to the
 their right and the right to the right to
 considered to affect the right to the right to
 legislation which is the subject of the right to
 registered in the right to the right to the
 laws. It is the right to the right to the
 most of the right to the right to the
 laws of the right to the right to the

THE UNIVERSITY OF CHICAGO

1. The following information was obtained from the records of the Federal Bureau of Investigation, New York City, dated 10/10/40, and 10/11/40, and 10/12/40, and 10/13/40, and 10/14/40, and 10/15/40, and 10/16/40, and 10/17/40, and 10/18/40, and 10/19/40, and 10/20/40, and 10/21/40, and 10/22/40, and 10/23/40, and 10/24/40, and 10/25/40, and 10/26/40, and 10/27/40, and 10/28/40, and 10/29/40, and 10/30/40, and 10/31/40, and 11/1/40, and 11/2/40, and 11/3/40, and 11/4/40, and 11/5/40, and 11/6/40, and 11/7/40, and 11/8/40, and 11/9/40, and 11/10/40, and 11/11/40, and 11/12/40, and 11/13/40, and 11/14/40, and 11/15/40, and 11/16/40, and 11/17/40, and 11/18/40, and 11/19/40, and 11/20/40, and 11/21/40, and 11/22/40, and 11/23/40, and 11/24/40, and 11/25/40, and 11/26/40, and 11/27/40, and 11/28/40, and 11/29/40, and 11/30/40, and 12/1/40, and 12/2/40, and 12/3/40, and 12/4/40, and 12/5/40, and 12/6/40, and 12/7/40, and 12/8/40, and 12/9/40, and 12/10/40, and 12/11/40, and 12/12/40, and 12/13/40, and 12/14/40, and 12/15/40, and 12/16/40, and 12/17/40, and 12/18/40, and 12/19/40, and 12/20/40, and 12/21/40, and 12/22/40, and 12/23/40, and 12/24/40, and 12/25/40, and 12/26/40, and 12/27/40, and 12/28/40, and 12/29/40, and 12/30/40, and 12/31/40, and 1/1/41, and 1/2/41, and 1/3/41, and 1/4/41, and 1/5/41, and 1/6/41, and 1/7/41, and 1/8/41, and 1/9/41, and 1/10/41, and 1/11/41, and 1/12/41, and 1/13/41, and 1/14/41, and 1/15/41, and 1/16/41, and 1/17/41, and 1/18/41, and 1/19/41, and 1/20/41, and 1/21/41, and 1/22/41, and 1/23/41, and 1/24/41, and 1/25/41, and 1/26/41, and 1/27/41, and 1/28/41, and 1/29/41, and 1/30/41, and 1/31/41, and 2/1/41, and 2/2/41, and 2/3/41, and 2/4/41, and 2/5/41, and 2/6/41, and 2/7/41, and 2/8/41, and 2/9/41, and 2/10/41, and 2/11/41, and 2/12/41, and 2/13/41, and 2/14/41, and 2/15/41, and 2/16/41, and 2/17/41, and 2/18/41, and 2/19/41, and 2/20/41, and 2/21/41, and 2/22/41, and 2/23/41, and 2/24/41, and 2/25/41, and 2/26/41, and 2/27/41, and 2/28/41, and 2/29/41, and 2/30/41, and 3/1/41, and 3/2/41, and 3/3/41, and 3/4/41, and 3/5/41, and 3/6/41, and 3/7/41, and 3/8/41, and 3/9/41, and 3/10/41, and 3/11/41, and 3/12/41, and 3/13/41, and 3/14/41, and 3/15/41, and 3/16/41, and 3/17/41, and 3/18/41, and 3/19/41, and 3/20/41, and 3/21/41, and 3/22/41, and 3/23/41, and 3/24/41, and 3/25/41, and 3/26/41, and 3/27/41, and 3/28/41, and 3/29/41, and 3/30/41, and 3/31/41, and 4/1/41, and 4/2/41, and 4/3/41, and 4/4/41, and 4/5/41, and 4/6/41, and 4/7/41, and 4/8/41, and 4/9/41, and 4/10/41, and 4/11/41, and 4/12/41, and 4/13/41, and 4/14/41, and 4/15/41, and 4/16/41, and 4/17/41, and 4/18/41, and 4/19/41, and 4/20/41, and 4/21/41, and 4/22/41, and 4/23/41, and 4/24/41, and 4/25/41, and 4/26/41, and 4/27/41, and 4/28/41, and 4/29/41, and 4/30/41, and 5/1/41, and 5/2/41, and 5/3/41, and 5/4/41, and 5/5/41, and 5/6/41, and 5/7/41, and 5/8/41, and 5/9/41, and 5/10/41, and 5/11/41, and 5/12/41, and 5/13/41, and 5/14/41, and 5/15/41, and 5/16/41, and 5/17/41, and 5/18/41, and 5/19/41, and 5/20/41, and 5/21/41, and 5/22/41, and 5/23/41, and 5/24/41, and 5/25/41, and 5/26/41, and 5/27/41, and 5/28/41, and 5/29/41, and 5/30/41, and 5/31/41, and 6/1/41, and 6/2/41, and 6/3/41, and 6/4/41, and 6/5/41, and 6/6/41, and 6/7/41, and 6/8/41, and 6/9/41, and 6/10/41, and 6/11/41, and 6/12/41, and 6/13/41, and 6/14/41, and 6/15/41, and 6/16/41, and 6/17/41, and 6/18/41, and 6/19/41, and 6/20/41, and 6/21/41, and 6/22/41, and 6/23/41, and 6/24/41, and 6/25/41, and 6/26/41, and 6/27/41, and 6/28/41, and 6/29/41, and 6/30/41, and 7/1/41, and 7/2/41, and 7/3/41, and 7/4/41, and 7/5/41, and 7/6/41, and 7/7/41, and 7/8/41, and 7/9/41, and 7/10/41, and 7/11/41, and 7/12/41, and 7/13/41, and 7/14/41, and 7/15/41, and 7/16/41, and 7/17/41, and 7/18/41, and 7/19/41, and 7/20/41, and 7/21/41, and 7/22/41, and 7/23/41, and 7/24/41, and 7/25/41, and 7/26/41, and 7/27/41, and 7/28/41, and 7/29/41, and 7/30/41, and 7/31/41, and 8/1/41, and 8/2/41, and 8/3/41, and 8/4/41, and 8/5/41, and 8/6/41, and 8/7/41, and 8/8/41, and 8/9/41, and 8/10/41, and 8/11/41, and 8/12/41, and 8/13/41, and 8/14/41, and 8/15/41, and 8/16/41, and 8/17/41, and 8/18/41, and 8/19/41, and 8/20/41, and 8/21/41, and 8/22/41, and 8/23/41, and 8/24/41, and 8/25/41, and 8/26/41, and 8/27/41, and 8/28/41, and 8/29/41, and 8/30/41, and 8/31/41, and 9/1/41, and 9/2/41, and 9/3/41, and 9/4/41, and 9/5/41, and 9/6/41, and 9/7/41, and 9/8/41, and 9/9/41, and 9/10/41, and 9/11/41, and 9/12/41, and 9/13/41, and 9/14/41, and 9/15/41, and 9/16/41, and 9/17/41, and 9/18/41, and 9/19/41, and 9/20/41, and 9/21/41, and 9/22/41, and 9/23/41, and 9/24/41, and 9/25/41, and 9/26/41, and 9/27/41, and 9/28/41, and 9/29/41, and 9/30/41, and 10/1/41, and 10/2/41, and 10/3/41, and 10/4/41, and 10/5/41, and 10/6/41, and 10/7/41, and 10/8/41, and 10/9/41, and 10/10/41, and 10/11/41, and 10/12/41, and 10/13/41, and 10/14/41, and 10/15/41, and 10/16/41, and 10/17/41, and 10/18/41, and 10/19/41, and 10/20/41, and 10/21/41, and 10/22/41, and 10/23/41, and 10/24/41, and 10/25/41, and 10/26/41, and 10/27/41, and 10/28/41, and 10/29/41, and 10/30/41, and 10/31/41, and 11/1/41, and 11/2/41, and 11/3/41, and 11/4/41, and 11/5/41, and 11/6/41, and 11/7/41, and 11/8/41, and 11/9/41, and 11/10/41, and 11/11/41, and 11/12/41, and 11/13/41, and 11/14/41, and 11/15/41, and 11/16/41, and 11/17/41

It is believed that this invention will be of great value to the public and it is believed to be well worth the time it requires.

Western Slope Purebred Livestock Breeders Association.--This organization was inaugurated at the Montrose fair in 1919. While its membership has been small and its accomplishments have been limited, it has possibilities of usefulness and an effort is being made to put it to work. Its first task is to be the publication of a breeders' directory and hand-book in the preparation of which the County Agent and this office have been asked to assist. Tuberculosis eradication and hog cholera and blackleg of cattle control are also on its program.

Corn and Potato Show.--An annual corn show has been held at Olathe for the past few years in which this office has assisted and such assistance as is necessary will be given this year. The 1920 show has not yet been held. A potato show will be added this year and it is expected to send winning exhibits to the Denver show in January.

The Farm Bureaus.--The Montrose and Delta County Farm Bureau were organized in 1917 as a war measure. Both counties employed county agriculturists and in both counties the first agents resigned in 1919, other agents succeeding them in the late summer of that year. Mr. Yeager in Delta County was poorly supported and was transferred to Boulder County in July of this year, Delta County having been without a County Agent since that time. In Montrose County Mr. King has received much better support although the county organization has not become strong numerically. The majority of the farmers while glad to accept the services of the County Agent do not seem to recognize the need of organization. Under such circumstances the usefulness of the Farm Bureau has been hampered but it has been able to show many real accomplishments for the year and is in a position to make a better showing the coming year.

In the belief that the County Farm Bureau should be encouraged in every way possible the assistance of this office has been offered for the promotion of the organization whenever it could be used and in a small way such assistance has been given. The relations between the two offices have been entirely pleasant.

Meetings.--Fifty-four meetings of various kinds have been attended at practically all of which talks have been given or some active part taken.

Time Spent Away from the Project.--A number of events have been attended or trips made away from the project which have taken considerable time from local work. These have included the office conference at Washington in June, a shipping association short-course at Denver in March; a trip in August to the San Luis Valley to become acquainted with livestock conditions there; a trip to the State Fair at Pueblo with club members in September; a trip to Kansas City in the interests of the wool pools in October; and another to Salt Lake City and Ogden to buy cows and sheep during the same month.

SUMMARY

General items included in the activities of the office for 10 months from February 1 to December 1, 1920 are shown below:

Miles traveled:

By rail.....	9,043	
By government auto.....	6,170	
By other means.....	<u>1,912</u>	
Total.....		17,125
Farm visits.....		348
Personal conferences.....		646
Meetings attended.....		54
Attendance at meetings.....		2,089
Circular letters.....		11
Articles for publication.....		26
Letters written.....		544
Letters received.....		242
Schools visited.....		10
Assistance at fairs.....		3

--oOo--

Document released pursuant to the provisions of the Access to Information Act / Document divulgué en vertu de la Loi sur l'accès à l'information

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII

January 29, 1921

No. 5

Western Irrigation Agriculture

Field Notes

San Antonio.

During the two week period ending January 15, the maximum temperature was 81, minimum 30, and greatest daily range 40. Only .18 inch of precipitation was recorded during the period. Seven days were recorded as cloudy and seven days as clear.

Plowing of fields C4, 5 and 6, D3 and F3 was completed and plowing of the remainder of field B4 begun. Manuring of rotation plats was continued.

Yuma.

The maximum temperature for the week ending January 8 was 76, minimum 25, and greatest daily range 48.

Cotton picking all over the project continues to lag. Some fields were plowed under after the first and second picking but there is still quite an acreage of standing cotton.

The prevailing sentiment throughout the valley indicates that a reduced acreage of cotton will be planted next year. This reduction, however, will not be as much as was indicated two months ago. The lower part of the project will make a community planting of 2000 to 4000 acres of Durango. The acreage of Egyptian cotton to be planted this coming season is still very indefinite.

Short cotton is selling at 10 to 12 cents and only contracted Pima is being moved. Alfalfa hay in the stack is worth \$15 to \$18 per ton.

The following station work was performed during the week: irrigating gardens, nurseries, winter legumes and fallow plats, picking cotton varieties, hauling and sawing wood, plowing sorghum stubble, and cultivating field peas.

Mr. E. B. Stanley of the Animal Husbandry Department of the University of Arizona was a station visitor January 1 and 2.

The maximum temperature for the week ending January 15 was 70, minimum 23.5, and greatest daily range 37.

Several cloudy days with threatening rain occurred during the week but no moisture fell. The minimum temperature so far this winter was recorded on the 12th.

Those unit holders in the valley who have sold, leased or rented land are now busy making settlements and adjustments, and, in general, are getting lined up for the coming season. Due to the exceptionally poor returns made this year by the tenant farmers, land sales, rents and share leases are not as brisk as they were at this time last season.

Station work during the week consisted of harvesting cotton varieties, ginning, plowing cotton lands, hauling and sawing wood, pruning vines and ornamentals, irrigating wheat varieties, green manure peas, garden, nurseries, etc.

Messrs. O. F. Cook, Robert Cook and Robert Martin were station visitors January 10 and 11.

Demonstrations on Reclamation Projects

Field Notes.

Uncompahgre.

The annual Farm Bureau meeting which was held on Thursday of the week ending January 3 was gratifying from the standpoint of numbers in attendance and interest shown. Officers and executive committee were elected and a county-wide program of work outlined for the coming year. Reduction of freight rates, marketing, taxation, and roads were projects receiving most emphasis.

One of the project farmers who has about a car load of feeder hogs has contemplated shipping them to the eastern part of the state to be finished where feed is more plentiful and cheaper than here. Negotiations were opened with a feeder on the eastern slope but the plan was dropped on account of the lack of uniformity of the hogs.

Another project farmer has bought over 200 head of feeder hogs to run in apple orchards where quantities of fruit were left on the trees. He has ordered a car of corn from some place in Nebraska to feed in connection with this waste fruit. The corn cost him 45¢ a bushel at the shipping point but freight on the car of \$480 will run the price to \$.95 per bushel here.

Mr. Squirrell has a bunch of 45 hogs on feed, using cooked potatoes and ground wheat. The hogs average about 100 pounds and are receiving 6 pounds of potatoes and 1 pound of grain per day in addition to what hay they will eat. Twenty three head of high grade Duroc-Jerseys are making gains of 1 pound per day, while 22 head of rather inferior Poland Chinas lost 37 pounds in 12 days' feed.

The corn and potato show at Olathe on Friday was well attended although exhibits of corn were said to be below normal. Potato exhibits were relatively much better and attracted considerably more interest. Specialists from the Extension Office judge the exhibits and addressed a general meeting in the afternoon.

Mr. Ireland reports as follows for the week ending January 15:

The local bull association sold its bull to a butcher this week at 2-1/2 cents per pound. The bull cost the association \$250 and was sold for \$47.50. Another bull was leased by the association from Loesch Brothers, breeders of purebred Holsteins, for \$40 per year, the association to pay in addition \$1.00 for each original service. The new bull has been placed in town in care of Miller Brothers who own and stand three stallions. They receive \$2.50 per service to cover feed and care of the bull.

The steer-feeding plant of the Delta sugar factory was visited with two project farmers on Monday, 500 steers, from three to five years old are on feed there now. They are receiving green pulp, molasses and a very little hay. No weights are taken but the steers are supposed to be doing well. The sugar company sells no pulp except to beet growers and as the majority of growers do not take the pulp there is a big surplus left for the company to feed. Growers are entitled to 25 per cent of their beet tonnage in pulp without charge. Above this amount they can buy pulp at 85 cents to \$1.25 per ton. Molasses is sold to anyone at \$25.00 per ton.

Considerable time has been spent this week in the interests of the Western Slope Purebred Livestock Breeders' Association in securing material for the breeders' directory which the association expects to publish. Parts of two days was spent in assisting two farmers to locate some purebred brood sows and a dairy bull.

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII

February 5, 1921

No. 6

AGRICULTURAL DEVELOPMENT ON THE NEWLANDS RECLAMATION

PROJECT IN 1920

By L. E. Cline, Agriculturist.

The year 1920 on the Newlands project has witnessed a great transition in farming activities and in farm prices, and in fact, farm commodity prices have been changing so rapidly, with the prices generally downward since the first quarter of the year that farmers generally have been in great suspense. A reduction in prices had been anticipated but the decline was much more rapid than was expected even by the most pessimistic. The readjustment has worked a great hardship on the farmers of the project. The cost of production for 1920 was perhaps the highest in the history of the project, while almost no crops were marketed until prices were rapidly declining.

To add to the difficulties, the market demands decreased even more rapidly than the price, and the close of the year found the bulk of all crops still in the ranchers' hands. This has been especially true of the alfalfa hay crop, of which we had this year the largest acreage and the largest yield in the history of the project. The deplorable condition of the alfalfa hay market at the close of the year has placed local finances in a very straightened condition, for which there seems to be no immediate relief.

The present financial condition of the valley which has been very largely due to the one crop system of farming, has already created a great sentiment for diversified farming. Reference to Reclamation statistics serves to show to what extent the concentration on alfalfa growing has been carried. In 1912 the total acreage of the five principal crops of alfalfa, wheat, barley, potatoes, and oats, named in the order of their importance, amounted to approximately 18,379 acres. In 1920 the total acreage of these same crops amounted to approximately 35,570 acres.

The following table serves to show how the proportion of alfalfa acreage has increased while the proportionate acreage of other crops has decreased during the interval between 1912 and 1920.

Item	Alfalfa	Wheat	Barley	Potatoes	Oats
Percentage of totals of various crops in 1912	70.2	13	11.9	2.6	2.17
Percentage of totals of various crops in 1920	86.0	10	2.1	.99	.019

The preponderance of alfalfa acreage may be attributed partly to the fact that a very large acreage has been recently brought under cultivation. New lands on the project must be planted almost exclusively to alfalfa for the first three or four years. This leaves no option for the new homesteaders. Diversified cropping must come therefore from the older ranches. The large demand for alfalfa hay the previous three years has resulted in the growers feeling that all that was necessary was to grow the crop and the market would come to them. Experiences during the past six months have demonstrated what an unwise course this was.

People are very hopeful that the new year will bring new credit for farming activities, a more stable market and sufficient diversification of crops, so that a weak market on alfalfa hay will not paralyze the community.

The dairy industry is starting out with better prospects than it has ever experienced before. The dairy herds are starting out with a clean bill of health. A very thorough tuberculin test was applied throughout the herds during the summer, resulting in the finding of only .189% reactors in the valley. These reactors have been taken from the valley, so that they are no longer a menace to future dairy development.

With the diversification of farm crops which will no doubt be practiced the coming year there is every indication that a diversified livestock industry will follow. There was some increase in livestock production in all classes except hogs last year.

The prospects for extensive dairy cattle importation were never better. The plan for financing the operation of the Churchill County Creamery includes the financing of dairy cattle importations to the extent of 2,000 cattle or more if there is a demand for them. Provision is also included in this scheme for providing ready funds for the liquidation of small debts of farmers who expect to participate in the creamery promotion scheme. The materialization of the scheme will be of great help to the project in general the coming year. Our preponderance of alfalfa acreage at this time places the settlers in a very receptive mind toward taking advantage of any movement looking to the increasing of the dairy industry locally.

UNITED STATES DEPARTMENT OF AGRICULTURE

Year	1914	1915	1916	1917	1918
Production of wheat	1,000,000	1,100,000	1,200,000	1,300,000	1,400,000
Production of corn	2,000,000	2,100,000	2,200,000	2,300,000	2,400,000
Production of cotton	500,000	550,000	600,000	650,000	700,000

The Department of Agriculture is pleased to announce that the following crops have been produced in the United States during the year 1918:

Wheat 1,400,000 bushels
 Corn 2,400,000 bushels
 Cotton 700,000 bales

The Department of Agriculture is pleased to announce that the following crops have been produced in the United States during the year 1918:

Wheat 1,400,000 bushels
 Corn 2,400,000 bushels
 Cotton 700,000 bales

The Department of Agriculture is pleased to announce that the following crops have been produced in the United States during the year 1918:

Wheat 1,400,000 bushels
 Corn 2,400,000 bushels
 Cotton 700,000 bales

The Department of Agriculture is pleased to announce that the following crops have been produced in the United States during the year 1918:

Wheat 1,400,000 bushels
 Corn 2,400,000 bushels
 Cotton 700,000 bales

The Department of Agriculture is pleased to announce that the following crops have been produced in the United States during the year 1918:

Wheat 1,400,000 bushels
 Corn 2,400,000 bushels
 Cotton 700,000 bales

The Department of Agriculture is pleased to announce that the following crops have been produced in the United States during the year 1918:

Wheat 1,400,000 bushels
 Corn 2,400,000 bushels
 Cotton 700,000 bales

The Department of Agriculture is pleased to announce that the following crops have been produced in the United States during the year 1918:

Wheat 1,400,000 bushels
 Corn 2,400,000 bushels
 Cotton 700,000 bales

The Department of Agriculture is pleased to announce that the following crops have been produced in the United States during the year 1918:

Wheat 1,400,000 bushels
 Corn 2,400,000 bushels
 Cotton 700,000 bales

The Department of Agriculture is pleased to announce that the following crops have been produced in the United States during the year 1918:

Wheat 1,400,000 bushels
 Corn 2,400,000 bushels
 Cotton 700,000 bales

THE DAIRY INDUSTRY.

Dairying on the Newlands project during the year 1920 has shown a much more favorable tendency than for the previous three years. There is every indication that dairying on this project will swing back to the 1915 basis by the close of the coming year. The era of war prices for farm crops such as alfalfa hay and grain showed every indication of returning to the pre-war basis by the end of 1920. Early in the past summer the price for alfalfa hay began to decline so rapidly that project farmers, who have been depending on an outside market for their crop for the past three years, were suddenly awakened to the prospect of seeing their crops left on their hands. With distant markets well supplied and prospects that future acreage in other sections will be greatly increased, local farmers have begun to seriously consider some means of developing home consumption of alfalfa hay on a basis that will necessitate little or no exportation of this commodity. On the whole it has been very unfortunate for this valley that war time prices for alfalfa hay have been so high and the demand so great that the need for home market was entirely lost sight of. The project has lost three years of time in which very rapid strides could have been made toward the establishment of the dairy industry on the project that would have furnished a fine market for every ton of hay grown. These conditions, however, were not confined to this particular project. Reclamation projects in general showed a decline in dairy production as well as in the livestock interests. Dairymen on the project have culled their herds very closely during the past four years, and, in the mean time, the very excellent dairy bulls with which the project was well supplied, have been the means of leaving on the project a very fine lot of high-grade heifer calves.

The price of dairy products for 1920, which averaged 62.6¢ per pound for butter fat, and which was not quite equal to the average price of 1919, yielded, however, very satisfactory returns for good working dairy herds.

The Reclamation census for 1920 shows an increase of dairy cattle of 12%, making a total of 2,072 as against 1,850 in 1919.

Equipment for dairying has shown little improvement during the year. As far as can be ascertained, only two substantial dairy barns were built. The fact that our very mild climatic conditions do not make shelter imperative has been largely responsible for the lack of equipment in this line.

During the month of November a cooperative experiment was started on the largest herd of registered Holsteins in the valley to determine to what extent, if any, a dairy cow would lose flesh during her lactation period when fed nothing but alfalfa hay. At the time the first observations were made these cattle were in various stages of lactation.

Weighings will be taken every three months to determine what changes in weight take place with the various animals under observation. It is common opinion among dairymen in the middle west that dairy cattle cannot maintain a satisfactory flow of milk for a long time on a straight alfalfa hay ration without losing weight. It seems to be a common experience among the Newlands project dairymen that dairy cows giving an excellent flow of milk appear to practically maintain their weight. These remarkable results are not possible in many sections but seem to be confined to high irrigated valleys of the western states. These observations will be watched with interest and if the data shows up as anticipated, it will further prove the very excellent feeding qualities of our alfalfa hay.

Owing to the lack of a herd testing association throughout the project, this office has been endeavoring to carry on all herd testing for which people have made applications and every effort has been put forth to stimulate application for herd testing. One hundred and thirty-five inquiries, including office visits, telephone calls, and visits about herd testing have been received and assistance rendered. In the report of tests on dairy herds, it has been the object of this office to determine the returns on the basis of alfalfa hay consumed, since the project so far may be said to be on an alfalfa hay marketing basis. The tendency on the part of the farmer seems to be to figure his returns received as the price received for alfalfa hay. Previous cooperative experiments have supplied sufficient data to warrant the establishment of 1,000 pounds of alfalfa hay per month as the amount that should be allowed each mature dairy cow. With this figure, together with the monthly yields of butter fat and skim milk it is easy to estimate the returns per ton of hay consumed per month by the dairy cow.

The good dairy herds of the project with good average returns have invariably yielded in dairy products about double the market price for alfalfa hay on the ranches. The publishing of these reports has always stimulated considerable discussion and thus resulted in much good.

Feeding practices among dairymen have been practically unchanged from the beginning. Alfalfa hay without limit is the method of feeding that is practiced universally. No silos have been erected during the year 1920, though with the increase in dairy cows that is expected the coming year, and more sentiment for diversified farming, there will no doubt be more silos erected.

As an indication of the sentiment for more dairying and the better development of a home market for alfalfa hay, attention is called to the organization of the Newlands Project Alfalfa Association, whose one purpose is the stimulating of dairying locally and of attracting dairymen with their dairy herds into this valley. The membership of this association consists of ranchers who have been raising alfalfa hay for distant markets. They realize the importance of a local market as well as the certainty that dairy cattle will furnish the market.

The association is spending their money in advertising throughout the country the advantages of the Newlands project for dairying. Considerable interest has been excited in other sections and the campaign should result in considerable benefit. A number of dairymen in other states are investigating agricultural conditions on the project and it is very hopeful that a large number of importations will be made through this agency. This office was very largely responsible for this movement.

Another hopeful aspect to the dairy situation on the project is the prospect of having extensive importations of dairy cattle through the assistance of the present owner of the Churchill County Creamery. Developments late in December of this year point to an organization of a creamery company which will operate the Churchill County Creamery, which has been closed for two years. If the Creamery Company is finally organized to operate the creamery as proposed, the present owner proposes to finance the importation of dairy cattle to the extent of several hundred thousand dollars, if necessary. The outcome of this enterprise is watched with great interest by local business men as well as ranchers, because they realize that its success means the placing of the business of the valley on a practically cash basis as compared with the credit system which has prevailed for some time. Unless something unforeseen happens, dairying will no doubt be our principal industry in the very near future. Since this movement promises to develop into a cooperative creamery, considerable time is being devoted to its furtherance.

The work of the Agriculturist on the Newlands project has been largely associated with the dairy industry. During the first half of the year, much time was devoted to the care and treatment of ailments of dairy cattle. This work had increased so much during the period up to this time that it gave every promise of shutting out all work of a development nature, so that, for this reason, it has been gradually eliminated, except when services in this connection are given for purely educational purposes. This office has continued to cooperate with the State Disease Control Board for facilitating the work of that office in the control of contagious diseases among cattle on the project. Black leg and anthrax continue to be sources of considerable loss, unless very close watch is kept. A regular vaccination against these diseases is carried out.

The importation of dairy cattle up to the end of the year has been confined quite largely to new settlers who have brought their herds from other states. Several herds have been added in this way. One car load of registered Holsteins was imported into the project during the year into a pure bred herd already established. The registered bulls that have been purchased during the year have been animals grown on the project in the registered herds. Previous to this year, first class registered bulls were available only from other states thus showing a considerable advancement in dairying. The selection of registered bulls by the ranchers is invariably referred to this office for decision.

With reference to breeds of dairy cattle, Holsteins continue to be in the lead with Jerseys and Guernseys next, in order of their importance.

The following is a summary showing the status of dairying on the Newlands project for the past six years.

Item	1915	1916	1917	1918	1919	1920
Total number white settlers.....	502	516	554	594	623	689
Total number dairy cattle.....	2579	2537	2020	1895	1850	2072
Percent of farmers having dairy cattle	82.2	67.8	65.7	64.1	62.8	64.5
Percent of farmers having only 1 cow..	13.3	17.3	18.5	15.4	17.2	20.0
Percent of farmers having 2 to 9 cows.	51.9	33.9	33.5	38.2	37.6	37.0
Percent of farmers having 10 to 20 cows	10.3	11.6	9.5	8.5	6.17	5.6
Percent of farmers having 21 to 30 cows	4.9	2.5	2.8	1.1	1.25	1.16
Percent of farmers having over 30 cows	1.5	2.5	1.0	.6	.47	.58

THE SWINE INDUSTRY.

The production of swine on the Newlands project has suffered a continual decrease in interest since 1916. The growing of swine does not naturally fit into our crop system, since only a small percent of our acreage, amounting to about 769 acres or about 16%, is devoted to the growing of barley, which is our crop for feeding hogs. At harvesting time in 1919 barley was about \$60.00 per ton on the farm and hogs were at that time about \$18.00 per hundred. At the same time this year barley was around \$65.00 per ton and hogs had declined to a price of 12¢ per pound at Fallon. These conditions account for the lack of interest in swine production. At the close of 1920 fat hogs were worth 10¢ per pound on the project, while barley was selling at \$50. and corn at \$55 per ton, respectively. The growing of grain up to the present time has been so meager that the project has always been on a shipping-in basis, while the fat hogs have always been bought at the San Francisco market price minus cost of transportation and shrinkage. It is easy to see that under these conditions, developing a hog industry receives little encouragement. In a few cases quite large herds of hogs have been fattened on ranches where there has been considerable acreage of grain grown.

The hogs have been used in these ranches as a means of avoiding a waste of grain that is left in the fields after harvesting. The hogs thus grown are later finished off with the feed necessary, but hog raising has not been made the means by which the main crop of grain has been marketed.

As an indication of the lack of popularity of hog growing on the Newlands project it is interesting to note that only 45.8% of the farmers own hogs while 54.2% have no hogs according to the census of 1920. Only 7.8% can be said to be growing hogs on anything like a commercial scale. The bulk of the hogs grown on the project are grown

by ranchers to serve as the family meat supply and to consume by-products of the dairy and the ranch in general.

Agriculture on the Newlands project up to the present time has not been adapted to diversified cropping. The older alfalfa fields are the only ones which the owners feel safe in plowing up and planting to other crops. Owing to the uncertainty of the growing of other crops as compared with alfalfa, this condition has naturally resulted in maintaining a very large proportion of the reclaimed land in alfalfa, and since alfalfa without ample supplements of grain is not adequate for the best results in swine growing, the project has been considerably handicapped in the development of the swine industry. In short the margin of profit in growing swine on the Newlands project is necessarily small and often uncertain, which conditions are necessarily discouraging to any industry.

Climatic conditions are very favorable for swine production, and with greater diversification of crops and more extensive dairy development, this project should grow hogs more profitably and more extensively.

The breed of hogs most generally raised are Duroc-Jerseys. They are favored perhaps because of their being better grazers and more prolific than many of the other breeds. On ranches that raise any considerable number of hogs, the hogs are grazed on alfalfa during the summer, in some cases, with a supplement of skim milk. The Berkshire breed is next in favor, with the Chester Whites and Poland Chinas coming next and meeting with about equal favor.

Swine diseases have attracted very little attention during the past year. There has been no hog cholera outbreak reported on the project during the year.

The cooperative marketing of hogs has received some attention. In fact, practically all the hogs that have been marketed out of the project have been marketed through cooperative shipments with the help of this office. The majority of these shipments have been paid for at Fallon. While this system of marketing has been very convenient for the farmers, it has not been as helpful in an educational way as when the farmers pool their hogs and send them to market in the care of a representative to be graded and sold on their merits.

During the year a very extensive hog feeding experiment was begun on one of the large ranches of the project. The object of the experiment is to get more data on the cost of fattening hogs under local conditions, also on the cost of producing hogs from the time the sows were bred until the finished hogs were put on the market. The first part of this experiment was finished the last of October when the first car load of fat hogs was sold. This car load went into the experiment with an original weight of 8,357 pounds. The final weight was 15,722 pounds, representing a percentage daily gain of 1.15%. These hogs were hopper-fed with an unlimited ration of rolled barley and tankage together with a small amount of wheat middlings. This car of hogs consumed feed at the rate of 4.4 pounds for each pound of increase in weight. The stock

hogs for this experiment were purchased at 12¢ per pound and the finished product was sold for \$13.75 per hundred, feed-yard weights. Although this experiment was a financial asset to the owner, it might easily have been made more profitable if it had been carried out according to the original plan which provided for finishing the hogs a month earlier, when the prices were considerably higher, which fact only goes to emphasize the importance of a thorough study of marketing farm products as well as the production of them. The remaining features of the experiment, which covers the time of feeding the sows until the resulting pigs are placed on the market, will continue through the year 1921. The results of such cooperative experiments on the project are used as a basis for discussions relative to swine production with prospective swine growers.

Considerable assistance has been rendered in connection with swine production in giving instruction in destroying worms and lice, feeding for market, and general care of sows at farrowing time. In a great many cases full instruction in the care and handling swine have been necessary for new homesteaders without previous instruction in raising swine.

The following table shows quite clearly the status of the swine industry on the Newlands project each year beginning with the year 1915.

Item	1915	1916	1917	1918	1919	1920
Total no. white settlers.....	502	516	554	594	623	689
Total no. hogs.....	4515	6092	3117	3343	3048	2211
Total no. white settlers owning hogs..	268	270	287	315	323	316
% white settlers owning hogs.....	53.5	52.5	51.8	53.0	51.1	45.8
% white settlers owning 1 to 10 hogs..	52.0	56.0	38.9	39.0	38.6	37.8
% white settlers owning 11 to 20 hogs..	28.2	21.4	8.3	8.9	8.3	5.6
% white settlers owning 21 to 31 hogs..	8.17	8.48	1.4	2.1	1.5	.87
% white settlers owning over 31 hogs..	11.5	12.54	3.06	2.3	2.5	1.4

THE SHEEP INDUSTRY

The sheep industry on the Newlands project has shown some increase for the year 1920. While the per cent of white settlers owning sheep shows a decrease over last year, the total number of sheep have increased from 3,347 to 4,611 or 36.8%. The decrease in percentage of settlers owning sheep is accounted for by the fact that there were 66 new homesteaders on the project at the time the census was taken. These new settlers have been on their places less than a year and would not be expected to be prepared to handle sheep. It is encouraging to note that the size of the flocks has increased considerably over what they were last year indicating that the sentiment for sheep raising is growing.

With the methods of handling sheep which are necessary under

local conditions, sheep raising is much less attractive than in localities where grazing on ranches or open range is available. Under project conditions it is necessary on most ranches to keep the sheep in corrals throughout the year and feed alfalfa hay. This makes the labor cost excessive, besides adding to the daily necessary routine which grows rather irksome. The feed cost of production under these conditions is also much more than when the sheep are kept in a pasture most of the year. Since sheep are quite subject to bloat, the loss from feeding alfalfa hay is often discouraging, so that it is not an easy task for ranchers on small irrigated farms to compete in sheep raising with the sheepman, who has for the large part of the year cheap feed and small labor cost.

The sheep of the project are quite well selected and graded up. The predominating two breeds that have entered into the improvement of the range sheep, and that have found their way into the ranches, are the Hampshire and the Shropshire.

The sheep on the project have been quite free from disease and pests. This is probably due in some measures to the small flocks in which they are kept.

Previous to 1919 there were range sheep in large numbers brought onto the project for fattening, for wintering and for lambing. These large flocks invariably left their quota of sheep on the project farms. The fact that these large bands of sheep have not been on the project for two years, and that our total number of sheep has increased 36.8 per cent, may be taken as an indication that sheep raising is growing in popularity among project farmers. This is no doubt largely due to the fact that they consume the kind of crops that are most largely grown in the valley, necessitating no outlay for feed in order to put them on the market.

The Agriculturist's work in connection with the sheep industry the past year on the project has been mainly in encouraging ranchers to take up sheep raising because it is the one industry that fits into their general alfalfa growing. Some time has been given to instructions in the way of general care of the flock, such as dipping for sheep scab and care of ewes at lambing time.

The following is a numerical statement showing the status of the sheep industry on the project from 1915 to 1920 inclusive:

Item	1915	1916	1917	1918	1919	1920
Number of sheep on the project.....	4710	5452	3346	3560	3347	4611
% of white settlers having sheep.....	15.0	12.4	16.2	14.1	15.9	12.6

The following table shows the size of herds in which the sheep have been distributed among the farmers:

Item	1917	1918	1919	1920
Per cent of farmers having less than 10 sheep...	8.1	7.7	7.1	6.09
Per cent of farmers having 10 to 20 sheep.....	2.2	1.8	3.6	2.46
Per cent of farmers having 21 to 30 sheep.....	2.02	.5	.03	.87
Per cent of farmers having 31 to 50 sheep.....	1.8	.1	.063	.58
Per cent of farmers having over 50 sheep.....	2.3	3.0	2.3	2.6

THE POULTRY INDUSTRY.

During the year 1920 the poultry industry, including chickens and turkeys, has met with a very material increase over the previous year. While the conditions affecting poultry growing are to some extent similar to those affecting the swine industry, the poultry industry has considerable advantage, in that the farm flock is usually given free range and requires much less attention for the same investment. The regular return in eggs from the farm flock also makes poultry growing more inviting. On the ranches where medium-sized dairy herds are kept, poultry production has invariably been taken on as a permanent part of the farming operations. The census report for the year 1920 shows that 70.6% of the ranches kept poultry, and that of this number 59.8% maintained a flock of more than twenty-five mature chickens and may be considered to be keeping poultry on a commercial scale. Of those keeping poultry, 14.8% are maintaining flocks of more than 100 mature chickens. Many of the number maintain flocks of more than 500 chickens.

Ranchers on the Newlands project who have had experience in the poultry business in other places claim that our climatic conditions are especially adapted to the poultry industry. The dry, warm springs are especially favorable to the growth of young chickens. It is the custom locally to import a very large per cent of the poultry to be raised locally from other places, principally from the Petaluma poultry district in California. These baby chicks which are imported are usually raised with a very small loss. The poultry industry on the project, however, is handicapped by the fact that local poultrymen are obliged to compete with California growers who are close to the market, whereas we have a large item in shipping expense. Our local price is the San Francisco quotation minus transportation. Much of our feed aside from wheat grown on the project, is purchased from the coast and our local price includes the freight charges to this place. It is easy to see that our competitors have the advantages over us of two freight charges, but in spite of this, local poultrymen maintain that egg production locally is one of our most profitable industries. With a more general growing of a variety of food for

poultry and with the increase in population of our project towns it is easy to see that the poultry industry may be one of the leading industries of the project in the future.

Poultrymen have had some difficulty with poultry diseases, chief among which has been contagious epithelioma and contagious epitheliosis, two diseases which are very closely allied. These diseases are contagious and are very destructive to the vitality of the flock if not remedied at once. The State Live Stock Sanitary Board through its agents has rendered very valuable service in immunizing farm flocks against these diseases. This office has also been instrumental in stimulating the immunization of farm flocks against these diseases. Many applications for this work have been prompted by this office.

Turkey Growing.

Turkey growing on the project has undergone a material increase during the past year. The census for 1919 showed 3,442 turkeys prior to the marketing season. The report for 1920 shows 3,624 turkeys. These figures show a very material decrease from the figures of previous years. The black head disease of turkeys which swept through the valley in 1917 caused such losses that the farmers have never regained their courage. It is predicted that the 1921 crop of turkeys will be more like the earlier crops, because fat turkeys have always been a marketable crop, and since grains show every promise of being cheap as well as many of the other farm crops, the ranchers who have had any experience in growing turkeys are expected to get back into the raising of this crop which has always commanded a good price and for which there has never been any lack of market.

Poultry feeding and management in general has commanded its share of attention from this office. It has always been felt that with the proper management of the flock and the raising of the necessary poultry foods on the ranches poultry culture on the Newlands project should be made a valuable asset to the agriculture of the region.

MISCELLANEOUS.

The work of the Agriculturist for the year 1920 on the Newlands project has been much the same as that of previous years with the exception of the last four months during which time much of the work of a veterinary nature which had been carried on before, was limited very largely to consultations, where actual veterinary services were rendered previously. This change in policy has enabled the Agriculturist to devote more time to actual development work.

During the past year more days were spent away from the project than during any previous year. A large part of this time was spent in

making a trip to Washington for the purpose of attending a conference with the other representatives of this office. In all, 59-1/2 days were spent away from the project during the year. Even with this number of days away from the project, the number of calls for assistance, which amounted to 1,236, was at about the same rate as the previous year, when 1,500 calls were received and seventeen days spent away from the project.

Herd improvement has been made the chief line of endeavor since the establishment of the office on this project. The past year has not witnessed as many importations of registered bulls as the previous year, this being due to the fact that first class registered bulls were available on the project and also due to the fact that there was little increase in the number of new herds and most all old herds were well supplied.

Herd testing has received much attention. A total of 810 samples of milk from individual cows has been tested during the year. The method of testing consisted of the ranchers taking samples and weights of milk from the individual cows and delivering them to the office where they were tested and reports and analyses of the tests sent out. In each instance where the herd tests were being made, a check was also run on the efficiency of the separator and a test was run on the cream as a check on the cream buyer.

Considerable time and effort has been devoted the last three months of the year in attending farmers' meetings and in discussing with individual ranchers and business men various plans for promoting the dairy industry of the valley, two of which plans are quite certain of realization, namely, the reorganization of the Churchill County Creamery and the importation of dairy herds through the efforts of the Newlands Project Alfalfa Association with its campaign of publicity of the dairy advantages of this project.

Reports of the results of advertising done by the Newlands Project Alfalfa Association show that two hundred very promising inquiries from dairymen of other sections have been received, making inquiry as to the dairy advantages of this valley with the object in view of finally making this their home if conditions are found to be satisfactory.

It has become very evident that if dairying is to be developed in this valley as it should be there is need for importation of dairymen as well as dairy herds. This need has resulted in the campaign of advertising for the purpose of attracting dairymen into the project.

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII

February 12, 1921.

No. 7

Western Irrigation Agriculture.

Field Notes.

San Antonio.

During the two weeks' period ending January 29, the maximum temperature was 80, minimum 30, and greatest daily range 32 degrees. Precipitation of .01 inch or more was recorded every day except one from January 18 to January 24, inclusive, the total rainfall for the period being 1.58 inches. These rains were general over an area within a radius of 50 miles of San Antonio and were of much temporary benefit to winter grain which is short and of a poor stand throughout the region. Winter plowing was also helped very much by the rains.

Besides a general cleanup of the barnyard during the rainy weather, all small lots of seed cotton selections were ginned and corn from the open crib was shelled, cleaned, and stored in bins in the barn where it can be fumigated and be made somewhat less accessible to rats.

All waste milo and sorghum was hauled from the stack-yard to waste land in the pasture. Plowing of fields B3, B4, and C3 was completed. Manuring of rotation plats was continued.

Yuma.

The maximum temperature for the week ending January 22 was 73, minimum 31.5, greatest daily range 36, and precipitation .54 inch.

Several light showers the last few days with warm ideal growing weather have greatly benefited the fall seeded grains and alfalfa.

Yuma (continued).

The general depression which has been very much in evidence all over the project this past fall is gradually disappearing. With the planting season almost at hand again land is being prepared for the coming summer crops. Aside from the cotton, alfalfa and grain sorghum crops, some interest is being taken to a limited extent in truck crops, grapes, dates, pecans, peanuts, hogs and dairying.

The first general contract for canal construction on the Yuma Mesa was completed this month. It is estimated that the additional work of construction of laterals, checks, headgates, and the installation of the pumping machinery, will all be completed in time for the planting of crops this fall.

Station work during the week consisted of picking and ginning cotton varieties, plowing pasture lands, repairing and building fences, and planting nurseries. Cuttings were planted in the A-9 nursery as follows: Grapes, 1500 (14 varieties); Figs, 460 (6 varieties); Pomegranates, 440 (5 varieties); Mulberry, 236 (4 varieties); *Populus monilifera*, 66; *Platanus orientales*, 50; *Ulmus parvifolia* No. 37810, 64; *Ulmus pumila* No. 22975, 31; *Tamarix articulata*, 170. Rooted plants from the nursery shelter were planted as follows: *Ulmus pumila*, 37; *Cupressus glabra*, 33; and *Thuya orientales*, 350.

Weather conditions during the week ending February 5 were very favorable for all growing crops. The maximum temperature was 72, minimum 32, and greatest daily range 37. The fall seeded grains and alfalfa are looking fine. Some land on the project is still being prepared for late grain crops. A large acreage of last year's cotton ground remains to be plowed. It is probable that an attempt will be made to volunteer a cotton crop on some of this land this coming season.

The picking of the Upland cotton varieties on the station will be completed in about a week. These lands are being plowed and seeded to alfalfa as soon as the cotton crop is removed.

Other station work performed during the week consisted of fencing alfalfa pasture for hogs, repairing sewer system, and ginning cotton.

Messrs. O. F. Cook, Robert Cook, and Robert Martin were station visitors during the week.

Vol. 21, No. 19

The American Medical Association is a non-profit corporation organized for the purpose of promoting the interests of the medical profession and the public. It is composed of the members of the American Medical Association, who are entitled to vote in the election of the officers and directors of the Association. The Association is organized into various departments and committees, each of which is responsible for the performance of certain duties. The Association is also authorized to issue a journal, which is published weekly.

The American Medical Association is a non-profit corporation organized for the purpose of promoting the interests of the medical profession and the public. It is composed of the members of the American Medical Association, who are entitled to vote in the election of the officers and directors of the Association. The Association is organized into various departments and committees, each of which is responsible for the performance of certain duties. The Association is also authorized to issue a journal, which is published weekly.

The American Medical Association is a non-profit corporation organized for the purpose of promoting the interests of the medical profession and the public. It is composed of the members of the American Medical Association, who are entitled to vote in the election of the officers and directors of the Association. The Association is organized into various departments and committees, each of which is responsible for the performance of certain duties. The Association is also authorized to issue a journal, which is published weekly.

The American Medical Association is a non-profit corporation organized for the purpose of promoting the interests of the medical profession and the public. It is composed of the members of the American Medical Association, who are entitled to vote in the election of the officers and directors of the Association. The Association is organized into various departments and committees, each of which is responsible for the performance of certain duties. The Association is also authorized to issue a journal, which is published weekly.

The American Medical Association is a non-profit corporation organized for the purpose of promoting the interests of the medical profession and the public. It is composed of the members of the American Medical Association, who are entitled to vote in the election of the officers and directors of the Association. The Association is organized into various departments and committees, each of which is responsible for the performance of certain duties. The Association is also authorized to issue a journal, which is published weekly.

Demonstrations on Reclamation Projects.Field Notes.Uncompahgre.

The first part of the week ending January 22 was spent at Denver in attending the Western National Livestock Show and the State Farm Bureau Corn Show where some assistance was given with exhibits from the Western Slope. The only premiums won by entries from this section were first and second on white corn and second on Duroc-Jersey junior boar pig.

Livestock exhibits at the Western National were generally creditable although the number of entries was said to be lower than in 1920. Exhibits of Hereford and Shorthorn cattle, Belgian and Percheron horses, Duroc-Jersey and Poland China hogs, and poultry were the principal features of the show, the Hereford classes being especially strong.

The sales of purebred livestock held on the show grounds were better than might have been expected, considering the existing money shortage. Duroc-Jersey hogs sold for very good prices, quality considered, the grand champion sow bringing \$300. Hereford cattle averaged over \$400. Shorthorns sold rather low but the quality of the offering was much lower than with the Herefords.

The hogs weighed for Mr. Squirrell on January 8 were weighed again on January 21. The 23 head of Durocs have continued gaining a pound per day while the Poland Chinas have gained less than one-third of a pound per day. It was suggested that the black hogs might be infested with worms and Mr. Squirrell decided to treat them with santolin and calomel.

The local bull association held its annual meeting during the week ending January 29. Officers were elected and some matters pertaining to the handling of the bull were discussed. The present active membership of the association is very low but with stock at \$5.00 per share, a share representing one cow, service fees to members at \$3.50 and to non-members at \$5.00, there is not much inducement to cow owners to take membership.

A bunch of hogs were weighed for Frank Meaker on Friday. These hogs are to be put on a full feed of ground wheat and buttermilk with what hay they will eat. Mr. Meaker is finishing another bunch of older hogs on hay, corn, and cull potatoes.

Uncompahgre (continued).

Milk tests were run for two men this week, both of them expressing a desire to have tests run regularly. Very few calls for this work have been received although testing has been encouraged in every way possible. One of the men for whom tests were made recently moved to this project and he is planning to go into dairying on a larger scale, having in mind the importation of a number of Ayrshire cows. Objections to the introduction of a new breed were suggested and he was taken to the Pahgre Valley Ranch to see the Holsteins of Loesch Brothers as a result of which he expects to breed Holsteins.

A call was received from Delta to confer with bankers and members of the Chamber of Commerce to plan a dairy extension campaign for Delta County, January 31 being set for the day of the meeting. Dairying is followed somewhat extensively in parts of Delta County although there are few cows in that part of the county on the Uncompahgre project. The butterfat receipts of the Delta Creamery of only 23,536 pounds for the first eleven months of 1920. indicates the shortage of cows.

---oOo---

THE HISTORY OF THE

REIGN OF

THE GREAT BRITAIN
FROM THE DEATH OF
THE LATE KING
CHARLES THE SECOND
TO THE PRESENT
TIME
BY
JOHN HUGHES
OF THE MIDDLE TEMPLE
ESQ.
IN TWO VOLUMES.
LONDON:
PRINTED BY J. STURGEON, ST. MARTIN'S LANE.
1719.

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII.

February 19, 1921.

No. 8

Western Irrigation Agriculture.

Field Notes.

San Antonio.

During the two weeks ending February 12 the maximum temperature was 84, minimum 29, and greatest daily range 42. No precipitation occurred during this period. The weather has remained unusually warm and many fruit and ornamental trees have been flowering. The minimum temperature of 29 degrees which occurred the night of February 10 was of short duration and no appreciable damage was done. Some few farmers have planted corn but cannot hope for it to germinate until we get rain as the seed bed is quite dry. Seven days of the period were recorded as cloudy and seven days as clear.

Manuring, spring plowing, and subsoiling of rotation plats was completed. Plowing of fields B3, C3, and AB8 was also completed. With the exception of the areas devoted to Rhodes grass, pasturage, orchards and buildings, the entire cultivated area of the farm is now plowed. Small fields on the Herbst and Slocum properties which have in previous years been used for cotton breeding work, have been cleared but re-leasing has been postponed awaiting information from the Office of Crop Acclimatization.

Farm roads which had grown up to Bermuda grass and weeds were plowed. Orchards on fields A1, A2, B3 and E3 were cultivated. Johnson grass and weeds on the fields south of field AB8 were dragged and burned. Removal of dead trees from orchards A1 and B3 was begun.

Demonstrations on Reclamation Projects.

Uncompahgre.

During the week ending February 5, a conference was held with County Agent McCann of Mesa County relative to the work of the Pure-bred Livestock Breeders' Association and the directory which the

Uncompahgre (continued).

association is to publish. Material for the directory has been coming in quite satisfactorily the past week or two but the list of breeders is incomplete.

Officers of banks and the Delta Chamber of Commerce were met Monday afternoon with reference to the proposed dairy extension campaign. It was decided to make a complete dairy survey of the county as a preliminary step in the campaign. The assistance of this office was requested in making the survey and otherwise.

The annual meeting of the Water Users Association at Olathe on Tuesday was an unusual meeting in many respects. There were about 350 water users present. The meeting was remarkable for its complete harmony. The entire board of directors was reelected as a unit by acclamation, the vote being unanimous.

The last half of the week was given over to a conference of farmers and stockmen at Montrose. Beginning Thursday there were separate meetings of cattle growers, wool growers, and Farm Bureau, with a general meeting at night in the nature of an entertainment. General meetings were held all day Friday and a banquet was given Friday night at which more than 800 were in attendance. The meetings continued all day Saturday.

The Governor of the State, Mr. Shoup, Ex-governor Ammons, Dr. Lory, President of the State Agricultural College, Mr. Jamison, President of the State Farm Bureau, and a number of other prominent men including several high officials of the railroads, appeared in the program. A special train was run from Denver.

A splendid spirit was shown throughout the meetings which were well attended. It was voted to make the conference an annual event.

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII.

February 26, 1921.

No. 9

Western Irrigation Agriculture.

Field Notes.

Yuma.

The maximum temperature for the week ending February 19 was 87; minimum 32, and greatest daily range 46.

The weather during the past two weeks has been rather unsettled. Several days with high winds, an occasional frost at night, and a few fairly warm days were experienced. Spring work is well under way all over the valley. Alfalfa and late grains are still being planted but most of the field work is being done on land to be planted to cotton this year.

An increasing interest is being taken this spring in the planting of pecans. Approximately 1,500 trees are being put out this month, in different parts of the project. Some plantings of citrus trees and early table grapes are also being made.

A large delegation from San Diego, including politicians, railroad executives, bankers, capitalists, manufacturers, real estate men and merchants were project visitors February 18 and 19.

Cotton picking on the station was completed last week. The results obtained from the variety test with Upland cotton are given in the following table.

1918 FEB 10

TO THE SECRETARY

DEPARTMENT OF THE INTERIOR

SIR:

RE: [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible text block]

[illegible text block]

Yuma (continued).Upland Cottons Variety Test, 4-Row Blocks.

Variety.	Area of Plat, A	Stand p. Plat	Yield per Plat, Lbs. Seed Cotton	Yield per Acre, Lbs. Seed Cotton
Durango 18	.14309	1422	463	3235
Lonestar (local)	.14309	1312	389	2720
Tuxtla	.14309	1428	416	2909
Acala (Calif.)	.14309	1350	481	3362
Lonestar (local)	.14309	1516	447	3125
Acala (Texas)	.14309	1422	475	3320
Lonestar (local)	.14309	1359	438	3062
Triumph (Texas)	.14309	1372	449	3140
Rowden	.14309	1373	483	3375
Lonestar (local)	.10746	856	255	2375
Triumph (U. of A.)	.14309	1433	390	2726
Sproull	.14309	1368	376	2628
Lonestar (local)	.14309	1455	332	2321

Demonstrations on Reclamation Projects.Field Notes.Uncompahgre.

One small herd of cows was tested for butterfat during the week ending February 12 and arrangements were made for testing another herd next week. There seems to be a little more interest in this work recently. Butterfat prices have been so high that any ordinary cow would return a little profit. Prices have dropped 25 per cent within the past few weeks, however, which may be the reason for the increased interest in testing.

Some time has been given to the dairy cattle survey in Delta County in connection with the dairy extension program of the Colorado State Bank and Chamber of Commerce. Data secured in this survey indicates a slight increase in dairying, a number of men expressing an intention of milking more cows later in the year. At the same time some were met who are offering their cows for sale.

Uncompahgre (continued).

A combination sale at which some purebred cattle and horses were offered was attended on Wednesday. Registered Percheron mares of rather plain quality sold at \$365 to \$420. A seven-year-old stallion, well built, but under-sized, brought \$390. Registered Shorthorn cows sold low bringing a little over \$100 per head. These cows were thin, but fairly well bred, and due to drop calves this spring. A three-year-old bull, grandson of White Hall Sultan, sold at \$120.

Preliminary work on a Duroc-Jersey Futurity for Montrose like the one held for the past several years was started. Ten herds must be found to secure the show and it is doubtful if this can be done as so many herds have been dispersed. However, with herds from Paonia, in Delta County, the required nominations can probably be found.

---- oOo ----

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII.

March 5, 1921.

No. 10

Western Irrigation Agriculture.

San Antonio.

During the two weeks ending February 26, the following meteorological data were recorded: maximum temperature 85, minimum 24, greatest daily range 43, and precipitation .11 inch. At the time the minimum temperature occurred, February 20, many fruit trees were in full bloom, but from investigations made in the farm orchards and from reports of other fruit growers of the region, very slight damage resulted. The light precipitation recorded occurred in the form of local showers and was of no agricultural value as it was rapidly dissipated by strong winds which followed. Ten days were recorded as cloudy.

The following fields were disked: A3, 4, 5 and 6; B3, south of the orchard; B4, 5 and 6; C3 south of the pomegranate planting; C4 and F3. All fruit trees which showed signs of San Jose scale were sprayed with dry lime sulphur solution February 14. A first application of lead arsenate spray was given all plum trees February 26 in an attempt to control Plum curculios (Conotrachelus nemuphar) and Plum gougers (Anthonomus scutellaris). Date palms in orchard E3 were pruned and sprayed with dry lime sulphur (12 pounds to 50 gallons of water) in an attempt to check the fungus which has quite thoroughly infected the leaves of all palms in this orchard.

Forty-eight dead trees were removed from the farm orchards.

Demonstrations on Reclamation Projects.

Uncompahgre.

During the first part of the week ending February 19, a call was received from a farmer near Montrose to inspect a lot of pigs from which he had lost two, several others showing symptoms of disease. An examination of the two pigs that had died and one that was killed for autopsy showed positive lesions of cholera. These pigs had been vaccinated against cholera by the serum-simultaneous method more than

Uncompahgre (continued).

two weeks previously. They were found to be badly infested with round worms and it is thought that the effect of the worms had made them unable to resist the vaccination.

Two lots of hogs were weighed for the same man during the week, 39 of these were hogs which had been weighed seventeen days earlier and placed on a ration of ground wheat, self-fed, and condensed butter-milk. They had gained 28 pounds each in the seventeen days, the initial weight being 99 pounds plus. The other bunch had been on a full feed of ear corn and potatoes and weighed 187 pounds per head. The owner estimates that he has lost from \$300 to \$500 on these two lots of hogs which were purchased last year and for which all of the feed has been purchased. They would have sold for something over \$800 last October and are worth only about \$700 now.

Parts of four days were spent on the dairy cattle survey. Not many cows are being found on this survey and very few inquiries for cows have been received. More cows have been listed for sale than are wanted.

The farm on which hogs were inspected for hog cholera on February 14, was visited again on Thursday of the week ending February 26. The pigs affected had been vaccinated for cholera and hemorrhagic septicemia early in the month. Since the 14th, fifteen head have died or been killed. Autopsies show pronounced lesions of cholera and hemorrhages indicating septicemia. The older hogs on feed on this farm which were weighed last week have been sold. None of them had shown symptoms of disease. Brood sows kept on the place were revaccinated for septicemia.

Considerable interest is being shown in irrigated pastures this year. Fourteen men have spoken of seeding pasture this spring. Probably not all of them will do so but there are doubtless others that we have not seen who will seed. Most of these seedings will be small.

Some preliminary work was done this week on the district Duroc-Jersey futurity show which has been held in connection with the Montrose fair for the past several years. This show requires the nomination of ten herds by breeders of purebred Durocs. Several breeders having sold their hogs since last fair time makes it uncertain as to whether the required number can be secured.

Two meetings of farmers have been attended this week. Both were called for the purpose of organizing local Farm Bureaus. The county farm bureau organization is much stronger this year than ever before in its history. There are about 350 members at present and the membership campaign is still being conducted.

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII.

March 12, 1921.

No. 11

Western Irrigation Agriculture.

Yuma.

The maximum temperature for the week ending March 5 was 91, minimum 44, and greatest daily range 44. The maximum temperatures recorded during the last of February and the fore part of March have only been equalled at Yuma once according to the weather records. A maximum of 92 was recorded on February 26th.

Cotton planting on the project began the third week in February. Since that time fields are rapidly being prepared for seeding in all sections. It is impossible to approximate very closely the cotton acreage for this season, however, it will include 2000 acres Durango, 1000 acres Acala, 3000 acres Triumph, and some Rowden, Lonestar and Pima. Some of the 1920 plantings of Pima will be ratooned this year.

The first cutting of alfalfa was harvested by some growers during the week. Hay is still selling around \$15.00 per ton baled. Alfalfa seed is moving slowly and a carry-over from last year is anticipated. It is reported that a large acreage in the Imperial Valley, and some in the Salt River Valleys, will not be cropped this season.

Station work during the week consisted of plowing cotton land, cultivating field peas and vetches, cutting and removing seedling fig trees, fencing roadways, and irrigating alfalfa, barley and oat varieties, field peas, gardens and nurseries.

Demonstrations on Reclamation Projects.

Uncompahgre.

A large part of the week ending March 5 was spent in connection with the dairy cattle survey in Delta County and the lower part of Montrose County. It is not the purpose of this survey to locate all dairy cows but rather to find any men who want to buy cows or dispose of the ones they have. On lower California Nesa it was

Uncompahgre (continued).

found that there were formerly from six to ten or more cows on nearly every farm, largely due to the work of Mr. Lindgren. At that time there was a cheese factory in Delta which furnished a satisfactory market for milk. Later it is reported that prices received at the factory were dropped and the cows were sold out to such an extent that there are only enough left to supply home consumption and there is very little interest in dairying. The cheese factory was closed and most of the cows were sold for slaughter.

A visit was made to the farm of Mr. Moberly. He has recently purchased a number of dairy cows locally, mostly grade Holsteins, and has installed a DeLaval milking machine with which he is very well pleased. At present he is milking 18 cows and expects to increase to 50 head or more. Records and pastures were discussed with Mr. Moberly. He plans to put in a considerable acreage of pasture either this year or next.

The board of directors of the Montrose Fair met this week for organization and to select dates for the fair. Among other business they decided not to accept the Duroc-Jersey Futurity this year because of the fact that Record Association has doubled its requirements this year, asking \$100 from the local fair association for the junior Futurity, instead of \$50. The effect of this action will probably be to reduce swine exhibits at the fair to club pigs and a very few others as Futurity exhibits have largely made up the hog show here.

The Uncompahgre Cattle Growers' Association met with Forest Service officials this week. A plan is being developed to segregate breeds on the range by means of fences. The idea is favored by a number of range users who are trying to keep their stock pure. No definite action was taken.

----- oOo -----

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE

and

DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII.

March 19, 1921.

No. 12

Western Irrigation Agriculture.

Huntley.

Mr. Hansen reports as follows for the week ending March 12:

A snowfall of about 8 inches which occurred on March 11 was the first precipitation of consequence during the past five months. The temperatures of the past winter were unusually mild and the ground was bare and dry practically all of the time.

In the feeding test of the comparative value of corn and sunflower silage which it was planned to continue as conducted in 1918 and 1919 it was found that the sunflower silage was of such poor quality that the cattle would not eat it and it was necessary to discontinue the experiment. This silage appeared to be even less palatable to stock than that made in former seasons at this station. An analysis made by the Chemistry Department of the State Experiment Station of a sample of sunflowers taken at the time they were placed in the silo indicated that the plants were deficient in fermentable sugar and it would appear that this might be an explanation of the failure to make good silage in all of the trials that have been made. An examination of the silage, which has a distinct putrefactive odor showed the presence of butyric acid.

Silage of fair quality, and that was readily eaten by cattle, was made from corn and sunflowers in about equal proportions. Other instances of failure to make satisfactory silage from sunflowers have been reported from the upper Yellowstone valley while from most other parts of the state the making of silage from this crop appears to be fairly successful.

One of the Holstein cows of the station herd has recently completed a years' record on advanced registry test with a production of 25,499 pounds of milk and 822.92 pounds butter fat, which is the record for the State. The age of this cow at freshening was 9 years and 11 months. This record was made on full feed of grain and roughage. The production of this cow on roughage alone at 8 years, 3 months of age was 14,212.1 pounds of milk and 470.3 pounds of fat.

San Antonio.

During the two weeks' period ending March 12 the following meteorological data were recorded: maximum temperature 85, minimum 43, greatest daily range 40, and precipitation 4.62 inches. Following an exceptionally dry fall and winter, rain began falling the night of February 28 and continued intermittently through March 2. Practically the entire cultivated area of the farm was in a loose condition and only a very small proportion of the 3.41 inches of rain which fell on these three days was lost by run-off. Cloudy or partly cloudy weather with scattering showers prevailed during the remainder of the period. A rainfall of 1.12 inches occurred the night of March 10.

All rotation plats of corn and milo were seeded on March 7 and 9, respectively. The seed bed contained plenty of moisture and the soil was in a good state of cultivation with the exception of a heavy infestation of Johnson grass on some of the plats. Isolated plantings of four selections of corn were made March 7 and 8 for Mr. E. B. Brown of the Office of Corn Investigations as follows:

Tuxpan x Martens	Field F3.....	1 acre.
Tuxpan	Field A1.....	1/5 acre.
Surcropper x Santa Fe Dent	Field C4.....	1/2 acre.
Ludiwig	Field B3.....	1/2 acre.

Two laborers with shotguns are being kept in the fields from early morning until dusk in an attempt to prevent birds from destroying the stands of corn and milo.

During wet weather much time was spent cleaning around grounds and buildings, pruning roses and other ornamental plantings, and repairing machinery.

Yuma.

During the week ending March 19 the maximum temperature was 90, minimum 46, greatest daily range 39, and precipitation 0.10. The few days of windy and cool weather has made it unfavorable for some of the early cotton plantings. Land is being irrigated and prepared for planting in all sections of the project.

The bulk of the first cutting of alfalfa is now being harvested. A gradual decline in hay prices is reported. Some hay is selling for \$8.00 per ton in the field.

Drilling on the first oil well in the Yuma Valley began on March 18, quite a celebration marking the beginning of operations.

Yuma (continued).

Station work during the week consisted of harvesting alfalfa, plowing under green manure (C-19-28), clipping Sudan grass plats, planting tomatoes, nursery stock, etc., general cultivating, hoeing and irrigating.

The barley varieties are all headed. The Smyrna and Hammchen varieties are maturing much earlier than the Common, Mariout and the Trebi. Early Baart wheat and Texas Red Oats are maturing earlier than the other wheat and oat varieties.

The purple vetch in the plat variation test is making a rank growth. The seed possibilities of this plat are to be investigated.

Station visitors during the last two weeks were: Mr. O. F. Cook of the Crop Acclimatization office, March 9 to 13; Mr. R. L. Nougaret, Viticulturist, California State Department of Agriculture, March 7; Dean D. W. Working and Professor J. C. Crider of the University of Arizona, March 17.

Demonstrations on Reclamation Projects.Uncompahgre.

A small start on pig and calf club work was made during the week ending March 12. It is planned to devote all of next week to this work in cooperation with County Agent King and Assistant Club Leader, Mr. Freeman, from Ft. Collins.

Pastures are promising to be a popular crop this year. Four men have been found this week who plan to seed some land to grasses and another has already done so. Later seeding is being urged.

The District Duroc-Jersey Futurity show, formerly held at the Montrose Fair, has been adopted by the Delta County Fair this year. The matter was presented to the Directors of the Delta County fair this week and they voted to accept the record association's proposition.

A sudden change in weather conditions occurred the middle of the week. It had been warm for several weeks and vegetation was starting to grow. Tuesday night the temperature dropped nearly to zero, causing damage to water pipes but none to fruit as far as known.

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII.

March 26, 1921.

No. 13

Western Irrigation Agriculture.

San Antonio.

During the week ending March 19, the maximum temperature recorded was 86, minimum 61, greatest daily range 22, and precipitation 0.03 inch. Notwithstanding the small amount of rainfall, every day of the week was cloudy. The temperatures through the week were above normal, and, being accompanied by high humidity, were favorable to rapid germination of corn, sorghum and garden plantings.

Corn planted in rotation plats March 7 and dwarf milo planted March 9 emerged March 15. An excellent stand was obtained on all plats. All burrows of ground squirrels which could be found in the vicinity of the corn plantings were given a thorough fumigation with carbon bisulphide. Two Mexican boys with shotguns, kept circulating through the fields, have proved quite effective in preventing damage by larks and pigeons. All corn and milo fields were given their first cultivation during the latter part of the week.

Sumac (Red Top cane) sorghum was planted in 4.1 foot rows on five rotation plats and in 8-inch drills on seven plats. Seventeen varieties and selections of sorghum and broom corn were planted in a variety test on the south end of C4 and north end of C5.

Orchards A1, B3 and E3 were cultivated with the disk harrow. Unseeded rotation plats which are badly infested with Johnson grass were given a deep harrowing with the spring tooth harrow. Johnson grass was chopped from plats planted to corn and milo, also from isolated and variety-test corn plantings.

The pomegranates in orchard A3 were pruned. All plum trees in orchards A1 and B3 and nursery A3 were sprayed with dry lead arsenate, 2 pounds to 50 gallons of water.

Painting and stenciling of stakes for the rotation plats was begun.

Yuma.

During the week ending March 26, the maximum temperature was 90, minimum 38 and greatest daily range 48.

Cotton planting and the harvesting of the first cutting of alfalfa is well under way throughout the valley. Some of the earlier cotton plantings are now up. The price of alfalfa hay in the field has dropped to \$6.00 per ton.

Station work performed during the week included the plowing under of field peas, C-19to28; planting Durango cotton progenies, A-23; harvesting alfalfa, A-1to9; general hoeing, cultivating and irrigating.

On March 23, three lots of hogs were started on feeding experiments. Lot No. 1 contains seven pigs averaging 43 pounds and are getting alfalfa pasture and a full feed of cracked grain sorghum in a self-feeder. Lot No. 2, containing 7 pigs averaging 39 pounds, are in a dry lot getting a full feed of cracked grain sorghum in a self-feeder and alfalfa hay in a feed rack. Lot No. 3, containing 7 pigs averaging 114 pounds, are on an acre plat of nearly mature field peas. No supplementary feed is given this lot.

National organizers of the American Farm Bureau Federation were canvassing the project during the week. Local Bureaus have been established at Yuma, Somerton, Gadsden, and probably at Bard.

Demonstrations on Reclamation Projects.Uncompahgre.

Practically all of the week ending March 19 was devoted to boys' and girls' club work. As last year, the work has been presented to pupils in the schools, all of the schools on the project except those in Montrose having been visited this week. No effort has been made to secure a large enrollment but interest is much stronger than last year and more than 400 enrollment cards have been given out. Parents' signatures are required on these cards and probably not over 300 will be returned. Live stock clubs organized this year include calves, pigs and poultry. Several men and women have volunteered to supervise the work of different clubs in various localities.

-----oOo-----

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII.

April 2, 1921.

No. 14

Western Irrigation Agriculture.

San Antonio.

During the week ending March 26, the maximum temperature was 85, minimum 47, greatest daily range 35, and precipitation 0.95 inch. High humidity, in connection with temperatures above normal, was favorable to plant growth, though rather oppressive to stock and men. Six days were recorded as cloudy or partly cloudy.

The plot of ground on Mr. Herbst's farm, across from the experiment farm buildings, was plowed.

Corn has attained a height of from four to six inches and the two boys who have been employed shooting birds have been dispensed with.

Repair of the wagon scales and of the pasture fence was started during the wet weather. The painting of stakes for the corn and sorghum variety tests and for the rotation plats was completed.

A carpenter has been employed and work commenced on the repair of the farm buildings. Farm labor will be used to assist in this work whenever practicable.

Demonstrations on Reclamation Projects.

Uncompahgre.

A combination sale at Austin was attended on Tuesday of the week ending March 26 for the purpose of locating purebred pigs and calves for boys' clubs. The Artt Brothers, on whose farm the sale was held, are breeders of high class Duroc-Jerseys and Holsteins. The sale was well attended but prices for some of the stock were low. Registered sows with litters sold for \$35 to \$45. Some of these were very well bred and of good quality. Holstein bulls sold at \$50 a head, only two receiving bids. Several others were listed but there was no demand for them at any price. Heifers sold somewhat better, two purebreds bringing

Uncompahgre (continued).

\$105 and \$140. Prices of \$10 per head on 2-months pigs for later delivery and \$100 on 6-months heifers were made by Artt Brothers. Enrollment in the clubs is not yet complete and it is not known how many calves or pigs will be needed. Most of the calves used this year will have to be grades because of a scarcity of available purebreds and a prevalent money shortage.

Some very good Poland-China pigs were found at T. G. Twyman's farm at Grand Junction which will be sold, registered and vaccinated for \$20 per head at weaning time.

A trip was made with Mr. King to Grand Junction to confer with County Agent McCann of Mesa County regarding the breeders' directory to be published by the Western Slope Purebred Livestock Breeders' Association. The members of the association are showing very little interest either in the organization or the directory and practically all of the work is being done through this office and the offices of the County Agents.

A heavy snow fell at Montrose on Friday night and Saturday of this week. Precipitation is generally heavier at Montrose than at Olathe and Delta, lower in the valley, and it is not known whether this snow covered the project or not. Ground was becoming quite dry, irrigation having been begun in some places, so, as the weather is warm, the snow should be beneficial as it will bring up wheat which is already seeded and make unnecessary irrigation of potato ground before planting.

-----oOo-----

WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII.

April 9, 1921.

No. 15

Western Irrigation Agriculture.

Newlands.

Mr. Headley reports as follows for the period ending April 2:

The mild weather of February and early March resulted in exceptionally early blooming of apricots, peaches, plums and some varieties of apples and pears. Freezing temperatures as low as 15 degrees last week froze many of the unopened buds as well as the blossoms that had appeared. It is probable that there will be but few plums and no peaches or apricots. Most of the apples and some of the pears are still dormant. It is interesting to note that two transcendent crabs opened their first blooms on April 25 in 1920 and on March 25 in 1921, a difference of exactly one month.

Because of the exceptionally low rainfall of the past three months farmers began irrigating their alfalfa fields earlier than usual. There is practically no market for alfalfa hay and as a result a large percentage of last year's crop will be held over. Many farmers are again increasing their dairy herds. Several car loads of dairy cows were brought in by George Wingfield from California and sold to farmers on an easy payment plan, similar to that adopted in 1913 and 1914.

On the experiment farm considerable progress has been made in cleaning up the fields and orchards. There was an unusual amount of this work to be done this spring for the reason that there was no cultivation and little irrigation between July 1, 1920 and March 5, 1921. Wheat has been planted in plats D 4 and 8 and E 2, 3, 4 and 5.

In the orchard the first trees were sprayed with lime sulphur for red spider. The following early varieties of vegetables have been planted; beets, turnips, salsify, onions, parsnips, radish and peas.

Newlands (continued).

The pasture grasses in C 2, 3, 4 and 5 did not come up well this spring probably because of the unusually dry winter. All these plats have been reseeded to the following pasture mixture:

Bromus inermis -----	7 lbs.	Canadian blue grass ---	3 lbs.
Tall oat grass -----	6 lbs.	Meadow fescue -----	3 lbs.
Orchard grass -----	5 lbs.	White clover -----	1 lb.
Rye -----	3 lbs.	Alsike clover -----	1 lb.
----- Total 29 lbs. -----			

San Antonio.

The week ending April 2 began with a sudden break in the warm weather which has prevailed for the greater part of the winter and spring. Temperatures during the entire week were below normal although no frost occurred. The following meteorological data were recorded: maximum temperature 85, minimum 43, greatest daily range 40, and precipitation 0.00 inch. Five days were recorded as cloudy or partly cloudy. All vegetation made rapid growth.

All corn and milo plantings were given their second cultivation. Rotation cotton plats were disked and spring-toothed harrowed in preparation for planting.

A heavy growth of weeds, which had appeared in the Rhodes grass plantings on A3, B3 and B4, was mowed in an attempt to obtain clean hay from the first crop.

A section of the pasture fence adjoining the corrals was removed, the weeds in the row plowed out, and a new fence erected.

Messrs. O. F. Cook and R. B. Martin of the Office of Crop Acclimatization visited the farm on March 31.

Demonstrations on Reclamation Projects.Uncompahgre.

The six-inch snow that fell Friday night of last week was repeated on Saturday night of the week ending April 2. This all went off quickly, putting considerable moisture in the ground which was becoming dry. Light freezes occurred for three nights following the snow but did little damage.

On account of heavy roads, not much travel has been attempted this week, considerable time having been spent in connection with the fair and the breeders' directory.

Uncompahgre (continued).

Mr. D. A. Jay, newly appointed livestock extension specialist with the State Agricultural College came in on Thursday and spent the day in talking over livestock projects and getting acquainted with a few of the breeders of the valley.

The farm on which hog cholera or some other disease has been causing losses was visited this week. Thirty-five head have died up to date. The veterinarian who is attending the case still does not think the trouble is cholera but does not make a diagnosis. Two hogs have been shipped to the Agricultural College but no report has yet been made. Post-mortem examinations made of several animals show lesions which indicate rather strongly that cholera is present.

Miscellaneous.

The following memorandum from the Chief of Bureau, under date of April 9, is quoted for the information of the field men.

"Arrangements have been perfected between the Western Union Telegraph Company and the executive departments and independent Governmental establishments, effective March 1, 1921, under which Government employees who may be out of the City of Washington will pay in cash at Government rates for official telegrams at time of filing, taking a receipt for such expenditure which receipt should accompany the account for reimbursement, except for messages to the Department at Washington, which should be sent charges collect. It is therefore requested that all Western Union Telegraph Company identification cards which are now on hand be returned to the Assistant in Charge of Business Operations for cancellation. Such cards will no longer be necessary, as this Company's instructions will provide for the acceptance of Government messages at all of its offices when endorsed "official business" and upon reasonable identification of the sender by the credentials customarily supplied by the Government to employees in a travel status, which will obviate the necessity of the telegraph identification cards heretofore used. The Department identification card may be used wherever necessary in lieu of the card of the Western Union Telegraph Company. The Department identification card will be honored by agents of the Telegraph Company in the same manner as the Company's own card was formerly honored."

All field men having in their possession cards issued by the Western Union Telegraph Company are requested to mail them in to the Washington office immediately in order that they may be forwarded to the Assistant in Charge of Business Operations for cancellation.

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII.

April 16, 1921.

No. 16

Western Irrigation Agriculture.

Newlands.

Heavy wind followed by freezing weather during the early part of the week ending April 9 caused additional damage to fruits that were in blossom. The low temperature was general and the press reported serious damage to fruits in several of the western states.

Arrangements have been made to have a few cooperative experiments on private farms. These include:

- 1.-- Two acres Riverview Special corn on the farm of L. A. Styles, for select seed production.
- 2.-- One-half acre Minnesota No. 13 corn on the farm of J. C. Sheppard, for select seed production.
- 3.-- One acre silage varieties on farm of J. A. Long.
- 4.-- Two acres mixed grasses on farm of Osgood & Kolstrup.
- 5.-- Treatments to increase the perviousness of hard lands on the farm of Osgood & Kolstrup.

The experiments with corn and pasture grasses have been undertaken because of the greatly increased interest in dairying that is manifesting itself on the project at the present time.

San Antonio.

The weather was very unsettled during the week ending April 9. Rain fell every day of the week, a total precipitation of 3.58 inches being recorded. Most of the rainfall came in intermittent, heavy showers and a high percentage of run-off occurred. Corn and sorghums grew very slowly. The maximum temperature for the week was 83, minimum 43, and greatest daily range 26.

Very little field work was possible. Thinning of corn on the rotation plats was begun but only part of the plats could be completed.

San Antonio (continued).

Rain interferred after two plats of cotton were planted, and it will probably not be possible to put teams in the fields for four or five days after the weather clears.

One palmetto palm six feet tall was moved from a position in the rear of the farm residence grounds to a vacant position in the front. Four small palmettos were transplanted from the greenhouse to vacant positions on the farm residence grounds and two to positions north of the tennis court.

Yuma.

During the week ending April 9, the maximum temperature was 90, minimum 34, and greatest daily range 49. The high temperatures recorded during the later part of February and first of March have been offset lately by some unusually cool days and nights. A minimum of 34 was recorded on the 5th and in some parts of the valley a light frost was reported.

The bulk of this year's cotton has now been planted. Some plantings of grain sorghums have also been made.

Station work during the week consisted of plowing under field peas, sour clover and berseem on the green manure plats, D-1 to 12; cutting Smyrna and Hammchen barleys in the variety test; plowing under field peas in the date lands, A-16 to 21; harvesting alfalfa; planting citrus trees on plat A-9; planting cooperative cotton series B-17; general hoeing, cultivating and irrigating.

The hogs on field peas, plats B-3 and 4, were removed April 4. During the 13 days they were on the peas they made an average daily gain of .64 pounds or a total of 59 pounds for the period.

-----oOo-----

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII.

April 23, 1921.

No. 17

Western Irrigation Agriculture.

Huntley.

The maximum temperature for the week ending April 16 was 72, minimum 17, and precipitation 0.00.

Weather conditions continued favorable for field work during the entire week and good progress was made in preparing land and seeding grains in the dry land rotations. Planting of trees and grass in the project park adjacent to the experiment farm was completed.

There appears to be more than the usual interest in starting irrigated pastures on the project and several inquiries have been received concerning pasture mixtures and methods of seeding. One or two cases of failure to obtain stands of pasture grasses seeded in the fall of 1920, due to the dry open winter, have been reported.

The seeding of grains and sugar beets on the project is well advanced.

Dr. Howard Welch, Veterinarian of the State Experiment Station at Bozeman was a visitor at the station during the week in connection with some cooperative experiments in feeding iodine to brood sows to prevent hairlessness in pigs.

San Antonio.

During the week ending April 16 the following meteorological data were recorded: maximum temperature 89, minimum 37, greatest daily range 33, and precipitation .09 inch. The unseasonably cool weather which began March 27 prevailed throughout the week and light frost was reported from small areas in the vicinity of the experiment farm. No damage of consequence resulted. Following the heavy rains of the previous week, it was not possible to work teams in the fields before the latter part of the week.

During the ten-day period when too wet for field work the Johnson grass made wonderful progress and on some fields was beginning to bloom.

San Antonio (continued).

A man with a tractor and ten-foot double disk harrow was engaged to disk parts of fields C3 and C6 and all of field D3. Farm teams were kept busy disking, drag harrowing, and spring tooth harrowing cotton land, and planting cotton. Besides the thirty plats of cotton in the rotation and tillage fields, the following experiments were planted: thinning and time-of-planting test on field B4; comparison of Lone Star and Acala varieties, field C6; variety test, field C6; cooperative series, field C6; progenies and Lone Star breeding investigations, field F3; and progenies and breeding investigations with Kekchi cotton on the Herbst's field.

Thinning of corn was completed the first of the week. Hand laborers devoted a large part of their time to chopping Johnson grass from corn and sorghum plantings and from fallow fields.

Mr. H. G. McKeever of the Office of Crop Acclimatization, who arrived at the farm on April 4 to supervise the planting of cotton experiments for that office, left for Greenville, Texas, the night of April 16.

Demonstrations on Reclamation Projects.Uncompahgre.

The pastures project claimed the bulk of the time during the week ending April 9. Several men called at the office to secure information regarding seed mixtures, etc., four farm visits were made in connection with the subject, and lantern slides illustrating the use of pastures were shown at one meeting. A few men have already seeded. Mr. McClymonds of the State Extension Division visited the project this week and was taken to visit a number of farms on which pastures were maintained. The College and Extension office have been recommending a rather radically different seed mixture from one suggested by this office. After his visit to pastures on the project, Mr. McClymonds was inclined to favor the latter mixture and made some suggestions which should be helpful in assisting farmers in setting pastures.

Mr. Cooley arrived from Salt Lake City on Wednesday noon, remaining until Friday, P.M. With him and County Agent King an interesting trip was made to the ranch of the Sneffels Land and Cattle Company, near Ridgway, to confer with Mr. Rohlf, the manager, regarding purebred Hereford calves for boys' clubs. Mr. Rohlf was attracted at once by the idea of furnishing calves to club members, and offered to put calves out to reliable boys, accepting their notes in payment, and to guarantee to each boy such a price for his calf in the fall, if he desires to sell, as should pay a reasonable profit for gains in weight. It was suggested that 20¢ per pound of increase in live weight be allowed. Other details have not yet been worked out.

W E E K L Y B U L L E T I N

Of the Offices of

WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII.

April 30, 1921.

No. 18

Western Irrigation Agriculture.

Newlands.

During the week ending April 16, the maximum temperature was 74 and the minimum 17, precipitation, trace. For the week ending April 23, the highest temperature was 80 and the lowest 30, precipitation, none.

The normal precipitation for the period December 1 to the end of March is 2.16 inches while the rainfall of the present season for that period was only .42 inch. A measurable amount of rain has not yet been recorded during April which has had an average of .56 inch.

Wheat was seeded April 11 in rotation plats F 3 and 15, and barley in plats F 1 and 13. Alfalfa was seeded in the growing wheat April 21 in rotation plats D 4, 8, F 3 and 15.

A comparison of the blossoming dates of 60 trees in 1920 and 1921 shows that the date of first bloom this year averages 22.2 ± 0.5 days earlier than last year. The smallest observed difference was 6 and the greatest 36 days. It has been apparent in previous seasons that early blooming of trees is associated with low fruit production.

San Antonio.

The week ending April 23 was one of extremes. A minimum temperature of 36 degrees was recorded for the night of April 17. Light frost was observed, however, on small areas which are somewhat lower than the surrounding terrain. A planting of corn on field F3 was quite severely frosted. No other damage to crops on the experiment farm was observed. A temperature of 90 degrees occurred April 21, this being the absolute maximum for the season to date. The greatest daily range was 40 degrees. No precipitation occurred.

Cotton which was planted the preceding week is coming up to satisfactory stands. The high winds, accompanied by low humidity, which prevailed during the week have rapidly dried the top soil and the young

San Antonio (continued).

seedlings are showing distress from the lack of moisture. The work of cut worms has been observed on several of the cotton fields. The cooperative series was planted April 18 on field C6.

The work during the week consisted of cultivating milo and sorghum (row planted) plats, and orchards; clipping Johnson grass on continuously cropped sorghum plats B4-12, 13 and B5-6; mowing weeds on ABC-7; thinning milo on the rotation plats; chopping Johnson grass; and, repairing and painting farm buildings.

Yuma.

During the week ending April 23, the maximum temperature was 97, minimum 38, and greatest daily range 53.

Cotton planting has just about been completed on the project. Some later plantings may be made on land following winter grain crops but this acreage will be small. It is still too early to get a definite idea regarding the stands. A considerable acreage of cotton, both short and long staple varieties, is being volunteered this spring. It has been noted that the stand and the new growth on these volunteered fields is much better on the heavier, salty soils.

The first cutting of alfalfa hay in the valley has been harvested. Prices on the hay sold ranged from \$10.00 to \$12.00 baled and from \$6.00 to \$8.00 per ton loose in the field.

Alfalfa seed growers are perfecting their organization to handle the coming seed crop.

Winter grains are now being harvested. Common Coast barley and Sonora and Early Bart wheat are the favorite varieties grown. More of this grain than usual will be harvested this year for grain. In the past most of the grains were cut for hay.

Station work during the two-week period ending April 23 consisted of harvesting barley varieties; hauling straw on barley stubble plats to be plowed under; plowing grain lands; planting cotton cooperative series and Tuxtla progenies; planting Indian corn, cowpeas and Brown Kaoliang on hog rotation plats; removing surplus male palms in the date nurseries; and general hoeing, cultivating and irrigating.

Demonstrations on Reclamation Projects.Sun River.

The greater part of the week ending April 23 was spent en route to this station. Official headquarters have been established with the U. S. Reclamation Service at Fairfield, Montana.

The settlers of the project have expressed an appreciation for the Department in placing a field man here again this year and the Fairfield paper gave a favorable announcement of the Agriculturist's arrival on the project.

The County Agent of Teton County visited the project the latter part of the week and one day was spent with him helping to organize a boys' potato club. There will be a membership of about twenty-five boys in the club. A meeting is scheduled to be held at the east school May 1 and the Agriculturist has been chosen to perfect the organization.

Uncompahgre.

The week ending April 23 was devoted largely to work with pig clubs, calf clubs and poultry clubs, in finding stock, securing local leaders, etc., and to the breeders' directory, copy for which was given to the printer on Saturday. The publication should be issued within two weeks.

Milk tests were run on three small herds of dairy cows. Three cows belonging to Ralph Nash, at present prices for feed and butterfat, are paying the cost price for grain and from \$25 to \$60 per ton for hay which has a market value of only \$8 to \$10. One of the cows, a grade Holstein, just fresh, milked 500 pounds in seven days, testing about 3.5%. The above returns are based on the following prices: wheat bran \$1.35 per cwt.; rolled oats \$1.70 per cwt.; corn meal \$2.15 per cwt.; oil meal \$4.25 per cwt.; and butterfat 45¢ per pound. No allowance was made for anything but butterfat. The cows received 1 pound of grain mixture for 4 pounds of milk produced.

Two men have been assisted in buying purebred bulls this week, making a total of six purebred dairy bulls placed this year.

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII.

May 7, 1921.

No. 19

Western Irrigation Agriculture.

Huntley.

The maximum temperature for the week ending April 30 was 73, minimum 30, and precipitation .06 inch.

Weather conditions continued favorable for field work and the seeding of grains and alfalfa in the various fields on irrigated land was completed. In most cases the moisture in the soil is insufficient to insure germination of seeds and irrigation will be required unless rain occurs soon.

Alfalfa and pastures are making but slow growth due to the drouth and preparation was made to begin irrigation as soon as water is delivered which will be about May 5.

The seeding of beets in the valley is about 75% completed and this work is being accomplished much earlier than usual.

Director F. B. Linfield of the Montana Experiment Station and J. M. Stephens of the Office of Dry Land Agriculture were visitors at the station during the week.

Newlands.

During the week ending April 30, the maximum temperature was 80 and the minimum 19.

Sugar beets were planted in the rotation plats E 7 and E 8 on the 28th. Sugar beets were planted in H 3 on the 30th and rows fertilized as follows:

1	Check	14 & 15	Ammonium sulphate
2 & 3	Ammonium sulphate	16 & 17	Check
4 & 5	Check	18 & 19	Acid phosphate
6 & 7	Potassium sulphate	20 & 21	Check
8 & 9	Check	22 & 23	Complete fertilizer
10 & 11	Acid phosphate	24 & 25	Check
12 & 13	Check		

Newlands (continued).

On April 29, potatoes were planted in plat H 4 as follows:

1 American Wonder, Discard	9 Burbank
2 American Wonder, Whole 46# seed	10 Burbank, stem end
3 American Wonder, Cut 29# seed	11 Burbank, seed end
4 Early Freeman	12 Burbank, stem end
5 Blue Victor	13 Burbank, stem end
6 Russett Burbank	14 Burbank, seed end
7 Colorado Pearl	15 Burbank, stem end
8 Producer	16 Burbank, discard

San Antonio.

During the week ending April 30, the following meteorological data were recorded: maximum 92, minimum 45, greatest daily range 36, and precipitation 1.12 inches. The climatic conditions were favorable for the growth of all crops, and field work was possible throughout the week with the exception of a few hours following a rain of .39 inches the night of the 25th.

Johnson grass on fields C6, C3, and D3, which had previously been cultivated with a tractor, was given a deep disk harrowing with the mule implement. Weeds were mowed, raked, and burned on fields ABC7, B3, and D4. About one and one-quarter tons of clean Johnson grass hay was saved from a small area on field D4.

Forty rows of Lone Star cotton were planted on the south end of field C6 to be included in a "Spacing-Time of Planting" test.

Cut worms are reported to be doing a large amount of damage to the cotton crop of the San Antonio region. Poison bran mash (100 lbs. of bran, 4 lbs. of Paris Green, 2 gal. of molasses, and water enough to make a stiff mash) is being applied to all cotton plantings on the experiment farm in an attempt to control this pest. This mixture is applied by scattering broadcast by hand after five-thirty in the evening.

Mr. W. E. Johnson of the British Agricultural Department visited the station April 29 for the purpose of obtaining data regarding the cultural methods and the cost of producing cotton in south Texas.

Demonstrations on Reclamation Projects.Sun River.

During the week ending April 30, six farm visits were made, seven calls for assistance were received, and one meeting was attended.

Work in the field was hampered during the week by cold, windy weather. The first precipitation of consequence during the entire month occurred April 30. The moisture came in the form of snow and will consequently cause a temporary suspension of farm work.

Mr. C. P. Williams, Assistant Chief of Construction for the U. S. Reclamation Service, visited the project during the week. Several meetings were held in different places on the project where irrigation problems were discussed with farmers.

The "Pale Western" cut worm which did great damage to the wheat and flax crop last season has made its appearance in several fields again this year but with water available for early irrigation it is hoped that the damage will be greatly lessened this year.

Uncompahgre.

On Saturday night of last week and Sunday of the week ending April 30, about eight inches of very wet, heavy snow fell, and there was a little more on Monday. It all went off within two days, putting a good lot of moisture into the ground and making roads bad for a few days.

Monday a trip was made to Ridgway to see Mr. Rohlf with reference to Hereford calves for calf clubs. Probably not more than three of these calves will be used as most of the club members want dairy stock. A meeting was attended at Ridgway for the purpose of discussing the possibility of securing the services of the Montrose County Agriculturist for part time in Ouray County.

A test was run on a herd of Holsteins for Mr. Hartman this week. There are 13 cows in milk in the herd now and several more to freshen. Mr. Hartman has agreed to feed grain to these cows and to keep feed and milk records. The cows were purchased recently and all of them are coming in with their first calves and are showing considerable promise. Aside from some miscellaneous work, the most of the remainder of the week was given to the fair and clubs.

WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE AND DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII.

May 14, 1921.

No. 20

Western Irrigation Agriculture

Newlands.

During the week ending May 7 the highest temperature recorded was 78 degrees, lowest 27 degrees, and the precipitation .26 inch. For the week ending May 14, the highest temperature was 87 degrees, and the lowest 38 degrees.

Varieties of fodder corn were planted in duplicate May 9 on the farm of H. J. Long. The seed was purchased from the Dakota Improved Seed Company of Mitchell, S. D. The varieties were: (1) Early fodder, (2) Medium fodder, (3) Evergreen Sweet Corn.

Corn for silage was planted May 12 in E-1, E-2, F-8, F-12, and D-3.

About three acres of Riverview Special was planted on the farm of L. A. Styles with the intention of selecting seed from the best plants in the fall.

A variety test of corn was planted in H-12, 13 and 14. One row of Pride of the North was planted between each variety and all varieties were planted in duplicate in order to avoid as much as possible errors due to variation of soil. The varieties included in the test were:

Pride of the North	Disco Pride
Early Fodder	Early Murdock
Medium Fodder	Wimples Yellow Dent
Oregon White Dent	90 Day White
White Flint	Northwestern Dent
Riverview Special	Squaw
Minnesota No. 13	King Phillip

San Antonio.

During the week ending May 7, the maximum temperature was 84, minimum 52, and greatest daily range 28. Cloudy weather prevailed every day of the week, although rain occurred only on May 1, when .73 inch was recorded. Climatic conditions were excellent for the growth of all crops.

Poison bran mash was applied to all cotton plantings not treated the previous week, and the damage from cut-worms has been kept at a minimum. Some replanting has been necessary in fields where the damage was most severe.

San Antonio (continued).

A small planting of Salvia hispanica was made at the south end of field A3, to determine the possibility of growing this crop in the San Antonio region, and to study its economic value as an oil producing plant. Six rows spaced four feet apart, and twelve rows spaced two feet apart, were planted.

Team work consisted of cultivation of all corn, milo, and sorghum plantings; cultivating orchards on fields A1, A3, B3, C3, and E3; mowing oats, for hay, in the pasture; mowing weeds on waste land in field A3, and in the rear of the farm residence; and hauling gravel, sand, and lumber from San Antonio.

Hand labor was used to chop Johnson grass; to build cement floors in the shop buildings; and to repair and paint the farm buildings.

Yuma.

The maximum temperature recorded during the week ending May 14 was 101, minimum 43, and greatest daily range 47.

The spring season up to the present time has been somewhat similar to the one in 1920. Abrupt changes in temperatures with high winds have caused only fair stands of cotton. Reseeding this year, however, is not the usual practice whereas cases of replanting three or four times last year were not uncommon. Cotton thinning is well under way. Wages of cotton choppers varies from \$2.50 to \$3.50 per day with no shortage of labor reported.

Some of last year's cotton which has been held in storage both on the farms and in the warehouses is being sold at ten cents per pound.

The similarity of the two seasons is causing some uncertainty with the alfalfa seed growers. Last year the best yields on an average were obtained from the later seeded crops. Many growers this year are taking off two crops of hay before turning the alfalfa to seed. Some of last year's Hairy Peruvian seed is selling at 18 to 25 cents per pound.

Cotton plantings on the station are up in good shape and will soon be thinned. Alfalfa is being cut the second time. Other station work performed during the week consisted of removing surplus male date palms from the A-16 to 13 nursery; harvesting oat and wheat varieties; threshing barley varieties; and general hoeing, cultivating and irrigating. Approximately 300 seedling date palms were distributed to unit holders on the project.

Demonstrations on Reclamation Projects.Sun River.

During the week ending May 7, seven farm visits were made, the time spent on each farm varying from one hour to one day. Fourteen calls for assistance were received, two meetings were attended and ninety miles were traveled by automobile.

A heavy rain Friday and Saturday has interfered with spring farming which is getting fairly well under way at this writing. A large acreage is being seeded to alfalfa. It is noticed that in comparison with last year, the land is being put in much better shape for irrigation.

The greater part of the week was spent with farmers on the east end of the bench assisting them with irrigation ditches and other problems in connection with seeding and leveling.

Mr. Greenwood, Agriculturist for the Great Northern Railroad visited the project during the week. His purpose was to get the attitude of farmers toward disposing of part of their holdings to home seekers in the east and middle west.

Mr. J. C. Taylor, County Agent Leader, for Montana, visited the project during the week and one day was spent with him visiting on the bench.

During the week ending May 14, eight farm visits were made, the time spent on each farm varying from two hours to one day. Several calls for assistance were received and one hundred miles were traveled via government automobile.

The week was devoted largely to work with surveying and planning ditches on land, assisting farmers near Fort Shaw to market potatoes and in leveling ground and seeding alfalfa.

Grain plantings have been delayed during the week by cold, windy weather. It is hard to estimate the acreage that will be seeded this spring but at present it appears that it will be smaller than in previous years.

Alfalfa on the Fairfield bench is looking good. The cut-worm which has taken a large part of the crop the past three years has begun to work in several fields on the east end of the bench near Power and Sloan.

The Reclamation Service has begun to deliver water on the Fort Shaw division. The cleaning of laterals on the Fairfield bench is about completed and water will probably be put in the canal the last of next week.

WEEKLY BULLETIN

Of the Offices of

WESTERN IRRIGATION AGRICULTURE

And

DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII.

May 21, 1921.

No. 21

Western Irrigation Agriculture

San Antonio.

Cloudy weather with short intermittent periods of sunshine, accompanied by high temperatures, prevailed throughout the week ending May 14. Strong winds of short duration occurred twice during this period. A small percentage of corn on the station was broken down by the wind and three fruit trees in Orchard A1 which were badly affected by root rot, although still green, were blown down. Corn, sorghum and cotton made good growth. One apricot tree (Bexar) and one peach tree (May Honey) ripened fruit. Due to shortage of soil moisture the fruit on nearly all orchard trees has made very little growth during the past three weeks. The following meteorological data were recorded: maximum temperature 96, minimum 56, greatest daily range 36, and precipitation .32 inch, which occurred on four different days in the form of intermittent showers.

Whipporwill cowpeas were planted May 11 in 3-foot rows on rotation plats A5-11 and 15. A planting of legumes, consisting of Velvet beans, soybeans, and cowpeas was made May 12 at the north end of field D3. Cowpeas were also interplanted between the rows of corn, on the west half, in the Corn-spacing Test on field C5.

Replanting of "skins" on the rotation cotton plats due to cut-worm damage, was completed. All cotton plantings, and the sorghum variety planting on C5, were cultivated.

Chopping Johnson grass, general hoeing, and repairing of the farm buildings was continued.

Demonstrations on Reclamation Projects.Uncompahgre.

Nearly all of the week ending May 7 was given over to work with pig clubs and calf clubs in endeavoring to locate animals for the members, and from the progress made it will take another week or two to supply all demands due to a scarcity of of suitable stock and the lack of money to go outside to buy. Desirable calves of dairy breeds are especially hard to find. Grade heifers, six months old, are priced at \$25 to \$35.

Two of the boys are buying pure bred Shorthorns from the herd of W. B. Roe of Crawford. These are very good calves, six to eight months old, and are costing only \$100. A trip was made to Mr. Roe's farm this week with one of the boys to select his calf. On the same trip two spotted Poland China gilts were purchased from the J. B. Young herd near Hotchkiss. These are the first pigs of this breed brought to the Uncompahgre Valley.

The annual meeting of the Delta Cattle Growers' Association was attended this week, also a meeting of the Directors of the Western Slope Fair.

Very little work was attempted during the week ending May 14 outside of that done with pig clubs. Fairly good pigs have been found for most of the members but it has been necessary to go quite a distance to get them. Pigs that are eligible to registry are costing \$5 and \$10 a head, not including the registration fee.

The majority of the members are borrowing money from the banks to buy their pigs and calves. Though all of the banks are pretty close with their funds, none of them are refusing to let the boys have whatever they need.

A request was received this week for assistance in securing a man to make an advance-registry test for Loesch Bros., the tester who has been doing this work being engaged on another test. The distance from the Agricultural college makes the expense of bringing a man from there for one test prohibitive.

Permission to use high-school students who are taking Smith-Hughes work, for official testing, had been refused by the State Dairy Commissioner but under the circumstances a local high school student was permitted to make this test and it is believed that these students can be used to very good advantage from now on.

County Agent McCann from Grand Junction came up on Tuesday to confer with the directors of the Montrose fair regarding dates for the two fairs which are both scheduled for the same week in September. The Western Slope fair at Montrose is to be held September 19-22, and the Grand Junction fair will probably be held the last of the same week or the week preceding.

Mr. Papke, chairman of the Sunnyside Farm Bureau called to discuss the organization of a bull club for his district. No definite steps have been taken but the club will probably be formed soon.

MiscellaneousThe Effects of Varying Amounts of Aluminum Sulfate on Worden Soil.

Located about in the center of the Huntley Reclamation Project near Worden, Montana, is an area of unproductive land comprising several thousand acres which has been since the opening of the Project in 1907 a problem in land reclamation. From time to time various attempts have been made to bring parts of this area under cultivation, but without results. Settlers have moved on and moved off and the problem remains still unsolved. The salt content of the soil is with some exceptions, not above the limit of plant tolerance. The lands adjacent to this area are producing good crops and have been for many years.

The soil of the Worden district is a heavy clay known locally as gumbo. It is very tenacious and almost impervious to water. After a rain or irrigation the surface becomes firm and hard and in fields composed of such soil it is not uncommon for water to stand on the surface for several days. Due to its close texture and tenacious qualities it is difficult to work. If not cultivated at the proper time the surface breaks up into large hard clods making it practically impossible to work it down into a desirable seed bed without first irrigating or waiting for a rain. The problem seems to be to find a treatment which will make the soil more permeable and put it in a higher state of tilth. With this in mind, some pot experiments have been made to ascertain the effects of varying amounts of aluminum sulfate upon this soil. This salt has been found to be very effective on similar soils from the Newlands project at Fallon, Nevada.

The soil used in these pot experiments was obtained through the Superintendent of the Huntley Experiment Farm and was taken from a field near Worden. In character it is a sticky gray clay. It has a water carrying capacity of approximately fifty per cent and its salt content as shown by the electrolytic bridge method is 1.5 per cent.

The Experiment

Eight glass pots provided with drains were numbered 303-1 to 303-8 inclusive, 303 being the number of the soil. In each pot was placed 300 grams of pulverized air-dried Worden soil containing one per cent moisture. Pot 303-1 was left untreated as a check. To the seven remaining pots commercial aluminum sulfate was added in varying amounts as follows: Pot 303-2, three grams; pots 303-3 and 303-4, one and one-half grams; pots 303-5 and 303-6, one gram; and to pots 303-7 and 303-8, one-half gram.

We computed that each pot had six square inches of soil surface and that one gram per pot equalled approximately one pound of aluminum sulfate per 18.9 square feet or 2300 pounds per acre. On this basis, the rate of application to each pot tested would be: pot 2, 6900 pounds per acre or approximately 3-3/4 tons; pots 3 and 4, 3450 pounds per acre or about 1-3/4 tons; pots 5 and 6, 2300 pounds per acre or practically one ton; and pots 7 and 8, 1150 pounds or approximately one-half ton per acre.

Effects of Varying Amounts of Aluminum Sulfate on Worden Soil (Cont'd)

After stirring the aluminum sulphate into the soil one hundred c.c. of distilled water was poured on the surface of each pot and the time of absorption noted. In the untreated pot the water was very slow to soak away while in the other seven it was absorbed in about five minutes. Practically no difference in the time of absorption between the treated pots was noted. Fifty c.c. more of distilled water was added to each pot and in two hours, with the exception of #303-1, some water had percolated through into the drain basin of each pot. It was approximately fifty hours before 303-1 let any water through. The percolate from pot 303-2 was the only one out of the eight which was clear, all the others had an amber color.

When sufficient distilled water had been added to saturate the soil in each pot a study of the rate of percolation was made by applying to the surface of each, distilled water in quantities of 100 c.c. and then noting the time required for it to pass through into the drain basin of the respective pots. The percolate in each basin was measured and placed in a separate bottle. The salt content of each was then determined by the bridge method. The soil in the treated pots 303-2 to 303-8 received six leachings and that in 303-1, the untreated pot, due to its slow rate of percolation, received only three.

Table No. I shows the rate of percolation and bridge reading for each leaching and the amount of aluminum sulphate applied to each pot.

Effects of Varying Amounts of Aluminum Sulfate on Worden Soil (Continued).

Table I.- Showing the rate of percolation per hour, amounts of salts by bridge method, and the rate of application of aluminum sulfate.

		Rate of application of aluminum sulfate.							
		No.1 Check	No.2 3-3/4 tons	No.3 1-3/4 tons	No.4 1-3/4 tons	No.5 1 ton	No.6 1 ton	No.7 1/2 ton	No.8 1/2 ton
Leach- ing No. 1	Percolation, rate c.c. per hour.....	1.90	12.80	4.33	3.66	5.00	4.00	6.66	7.33
	Salts by bridge.....	6.26	5.57	7.525	7.81	7.87	8.66	7.155	7.15
Leach- ing No. 2.	Percolation, rate c.c. per hour.....	.42	25.00	4.95	4.80	4.80	4.80	5.20	5.33
	Salts by bridge.....	3.28	1.51	2.415	2.415	2.095	2.095	2.08	2.275
Leach- ing No. 3	Percolation, rate c.c. per hour.....	.24	10.66	4.51	3.44	3.32	3.00	2.24	2.84
	Salts by bridge.....	.11	0.965	1.40	1.275	1.245	1.15	1.15	1.15
Leach- ing No. 4	Percolation, rate c.c. per hour.....		4.85	3.08	2.01	1.93	1.66	1.04	1.18
	Salts by bridge.....		0.51	0.285	0.415	0.30	0.23	0.525	0.42
Leach- ing No. 5	Percolation, rate c.c. per hour.....		2.83	1.76	1.01	1.18	1.09	0.86	0.87
	Salts by bridge.....		.125	.0775	.095	.085	.10	.10	.085
Leach- ing No. 6	Percolation, rate c.c. per hour.....		1.12	1.40	.50	1.57	.86	.71	.73
	Salts by bridge.....		.049	.059	.09	.075	.075	.09	.08

W E E K L Y B U L L E T I N
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII.

May 23, 1921.

No. 22

Western Irrigation Agriculture.

Huntley.

The maximum temperature for the week ending May 21 was 75, minimum 28, and precipitation .83 inch.

Crop conditions locally are very satisfactory for this season and are generally much more favorable at this time than on the same date during the past two or three years. The total rainfall of 2.19 inches which occurred in the past two weeks was of great benefit to spring seeded crops and has resulted in excellent stands and has made early irrigation unnecessary. Some instances of black-rot in the earlier seeded sugar beets have been reported although this condition does not appear to be general or very serious. About 17,000 acres have been seeded to beets in the Billings factory territory.

At the experiment farm the seeding of corn and potatoes in the irrigated rotations was completed. This completes all seeding excepting corn for silage in field L-I and III, AIII and O-IV.

The pasturing experiment with dairy cattle in field L-III and A-II were begun on May 19. In field L-III, which contains 24 one-fourth acre plats, seeded to three pasture grass mixtures, a comparative carrying capacity test of these mixtures was conducted during the past three seasons and, in the present experiment a test of the value of top dressing with manure will be made.

Mr. J. M. Stephens of Dry Land Agriculture and P. V. Cardon, Agronomist of the Montana Experiment Station, were visitors during the week.

San Antonio.

During the week ending May 21 the following meteorological data were recorded; maximum temperature 89, minimum 61, greatest daily range 26, and precipitation .34 inch. The small amount of precipitation recorded occurred in intermittent showers on three successive days and was of no material benefit to crops. Corn, sorghum, and grass plats are needing moisture very badly and unsatisfactory stands have been secured on cotton plats planted since May 1, due to lack of sufficient moisture in the seed bed.

First pollen was noted on practically all rotation plats of milo maize during the week. Close observation has failed to discover any evidence of the presence of the midge in the sorghum to date. The third planting of Dwarf milo and Darso grain sorghums in the "Time-of-Planting Test" on C4 was made May 17.

San Antonio (continued).

Late plantings of Lone Star cotton were made for the Office of Crop Acclimatization on fields B4, C3 and C6, to be used in the "Thinning-Time-of-Planting" experiment. Thinning of cotton on the rotation plats and on the Herbst's field was started May 21. Fair to good stands have been obtained on all rotation plats.

Messrs. McKeever and Beckett, of the Office of Crop Acclimatization arrived at the station May 20 to handle the thinning of cotton for that office.

Demonstrations on Reclamation Projects.Sun River.

During the week ending May 21, eight farm visits were made, the time spent on each farm varying from six hours to one day. Fifteen calls for assistance were received, irrigation systems were planned on seven hundred acres, and one meeting was attended.

The grain crop on the Greensfields bench is being seriously damaged by the "Pale Western-Cut-Worm." The damage is most serious on the higher ground near Fairfield and along the south bench near the main canal. Several hundred acres of excellent wheat has already been entirely eaten off. With few exceptions seeding has been suspended the past week and all efforts have been turned to preparing the land for irrigation. It is hoped that further damage by the cut-worm may be checked with irrigation.

The past week was given over to assisting farmers with irrigation problems.

Uncompahgre.

Most of the week ending May 21, like the two weeks preceding, was devoted to club work. The pig clubs are finally provided for. Thirty-three members are enrolled in the first year's work and seven in the second year. To secure pigs for the former it was necessary to take all the available pigs from ten different farms and to have three different owners register sows or boars in order to make the pigs eligible to registry. The thirty-three head include five Poland China gilts, two Spotted Poland China gilts, four Duroc-Jersey boars and twenty-two Duroc-Jersey gilts. Members taking the second year's work were all in the club last year, five of them using the sows used for last year's work. All but one of the second year members have Duroc-Jerseys.

Seven calf club members are still unprovided for. Three of these want to get Herford calves from the Sneffels Land and Cattle Company herd at Ridgway and visited the ranch this week to select their calves. The manager of the herd is in the east at present so it will be necessary to make another trip to Ridgway later to get the calves. Two members desire Holstein heifers which have not yet been found and two want pure bred Guernsey's which probably cannot be secured here.

Uncompahgre (continued).

Saturday there was held an enthusiastic Farm Bureau meeting in Montrose. Marketing the 1921 wheat crop was the topic receiving special attention, steps being taken to determine the feasibility of building a cooperative elevator. The Bureau voted a \$50 appropriation to assist in sending members of boys' and girls' clubs to the State fair next fall. About 100 farmers were in attendance at the meeting.

MiscellaneousIrrigated Cotton in the Southwest.

In a special report on cotton production in the irrigated southwest in 1920, issued December 23, 1920, it was estimated that approximately 500,000 acres was devoted to cotton under irrigation. Of this acreage, a little more than half was used for Upland cotton and the remainder for Pima.

This 1920 acreage was regarded as much larger than normal, the increase having been stimulated by the period of high prices prevailing during and after the war. The sharp decline in cotton prices which took place during the harvesting season might be expected to result in a decrease in acreage for the season of 1921. The extent of this decrease in cotton acreage may now be estimated with a fair degree of accuracy. From correspondence recently received the following estimates may be set down:

Upland Cotton, Irrigated Acreage, 1921.

Pecos Valley:	Acres
Roswell district (all Durango).....	2,500
Artesia district	1,500
Carlsbad project (90% Durango and Acala).....	9,000
Barstow, Grand Falls, and Buena Vista.....	11,500
Total Pecos Valley.....	24,500
Rio Grande Valley.....	6,000
Yuma project (3,000 acres Durango and Acala).....	7,800
Palo Verde Valley (mostly volunteer).....	10,000
Imperial Valley, California.....	35,000
Imperial Valley, Mexico.....	75,000
Coachella Valley.....	500
Total Upland, Irrigated Southwest	158,800

Pima Cotton, Irrigated Acreage, 1921.

Salt River Valley.....	65,000
Yuma project (2,000 acres volunteer).....	3,000
San Joaquin Valley.....	2,500
Imperial Valley, California, none planted, an unknown acreage volunteered.....
Total Pima, Irrigated Southwest.....	70,500

Irrigated Cotton in the Southwest (continued)

These figures indicate a decrease of about 100,000 acres in the areas planted to Upland cotton and about 170 acres in the areas planted to Pima cotton as compared with the estimates for 1920, or a total acreage for the current year less than half that planted in 1920.

While much of the acreage used for cotton last year may be planted this year to other crops, chiefly grain and alfalfa, there are indications that some of this acreage has not been planted this year.

C.S.S.

-----oCo-----

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII.

June 4, 1921.

No. 23

Western Irrigation Agriculture

San Antonio.

A dry, south-east wind prevailed during the week ending May 28, and all vegetation on non-irrigated land is suffering for water. The lower leaves on corn, which is in the early milk stage, are beginning to "fire." Meteorological data were recorded as follows: maximum temperature 97, minimum 65, and greatest daily range 29. There was no precipitation. Maximum temperatures of over 90 were recorded for six days of the week.

Thinning of cotton was completed on the rotation plats, the early planted thinning experiment fields, variety test plat, and on the breeding blocks.

Field ABC, which is not now in crop, was double disked and spring-tooth harrowed for weed control. The uncropped portions of fields B3, C3, D3, and E3 were disked. A crew of from three to five men was kept busy chopping Johnson grass and weeds from the rotation plats.

Demonstrations on Reclamation Projects.

Sun River.

During the week ending May 28, fourteen farm visits were made, the time spent on each farm varying from one hour to one day. Sixteen calls for assistance were received and head ditches were surveyed and lateral systems planned on eight hundred acres.

The greater part of the week was given over to surveying and planning irrigation ditches for farmers on the Greensfield bench. Grain planting is almost completed on the Project. Some grain that has been eaten by the worms may be reseeded but this acreage will be small.

Water has been turned out of the main canal for the last four days while repairs are being made in the cement lining. The Reclamation Service expects to deliver water again the first part of the week.

The cut-worm situation remains about the same. Mr. A. L. Strand, Entomologist from the Montana State College, visited the Project during the week, and one day was spent assisting him to make a survey of several fields. He intends to place a man here during the summer to study control methods.

Uncompahgre.

Most of the work accomplished during the week ending May 28 was in connection with calf clubs, fair, pastures and dairy improvement. Arrangements were made with Mr. Scharf, father of one of the club members, to go to Ridgway on Monday of next week to bring three Hereford bull calves down for club members. A Holstein heifer was placed with a member on North Mesa. This was a little Russian girl who, with her sister, is borrowing money from one of the banks to buy two heifers. Last year this girl borrowed money to buy a purebred pig for the club. She paid her note and is raising a litter from her sow.

A schedule of awards for club contestants has been arranged as follows: The highest scoring member in each club will be designated the champion of that club and will be awarded the highest premium. Other members will be divided into three classes according to scores received, members in the same class receiving equal premiums. This arrangement is made for the benefit of those who complete their work and might not stand high enough to be among the first ten, which was the number of premiums awarded last year.

On Wednesday a Jersey cattle show was attended at Grand Junction, this office having been requested to furnish the Judge. The show was very satisfactory from the standpoint of both number and quality of exhibits. There were forty-six entries, all being registered stock. Four premiums were allowed in each class for each school district represented, and first prize entries competed for county premiums. Classification was that of the Jersey Isle. Competition was especially strong in two-year-old bred heifers, heifers under three years in milk, cows three to six years, cows over six, and aged bulls. Much interest was shown in the judging which occupied nearly the full day. It is planned to make the show an annual or semi-annual event.

WEEKLY BULLETIN
Of the Offices of

WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII.

June 11, 1921.

No. 24

Western Irrigation Agriculture.

Newlands.

During the period ending May 21, the highest temperature recorded was 84, the lowest 29, and precipitation .72 inch.

During the period ending May 28, the highest temperature recorded was 89, the lowest 38, and precipitation 0.

On May 24 small plots were planted of the following varieties of crops:

Sudan grass	Feterita
Sunflower, Burbanks	Milo
Silverhull Buckwheat	Egyptian corn
Japanese Buckwheat	Burbank popcorn
Early Amber Sorghum	Burbanks Sorghum Pop
Dwarf Broom corn.	

Ten loads of manure were spread on O and the plot was then seeded to Japanese Millet. This same variety of Millet was also seeded in the east half of A3.

The sugar beets on E7 and 8, and H3 were replanted June 3 because of the poor stand obtained from the first planting.

Scottsbluff.

Under date of June 3, Mr. Holden wrote Mr. Scofield as follows, concerning conditions on the North Platte Project:

"The prospects of a good crop on the North Platte Project are very favorable at the present time. Spring opened up unusually early. Many farmers seeded wheat in March. A few even seeded alfalfa with the wheat. Sugar beets were seeded very much earlier than usual. Practically all beets were seeded before the last of April. Due to the dry conditions, however, the seeds did not germinate until the middle of May.

Up until the middle of May the rainfall was very light. The total for February and March was less than one-half inch and that for April and the first half of May was less than one inch, while during the last half of May it has been almost three inches. Since about the middle of May we have had a good rain each day or two. A hail storm on May 21 did some damage. The rain for the past three weeks has been ideal in bringing the crops up. The beet stand all over the Project is

Scottsbluff (continued).

very good. Beet thinning is just beginning and will be going strong within a week. The beet acreage is about 10 per cent less than it was last year, but as the sugar company restricted their beet contracts to land suitable for beets, it is thought that the tonnage will be greater than last year.

A large acreage of alfalfa was seeded with grain this spring and is coming along nicely. There is quite a large acreage of potatoes being planted and the farmers are using very much better seed than has been the practice in the past.

Labor is very plentiful this spring and much cheaper than it has been since 1917. It is claimed that there is a great deal of unemployment in the towns.

All the lambs and most of the cattle that have been on feed have been shipped to the market. Both sheep feeders and cattle feeders have lost money."

Yuma.

The maximum temperature for the week ending June 4 was 96, minimum 51, and greatest daily range 43.

Fairly cool weather continues even at this late date. Several days of cloudy weather occurred during the week but no precipitation fell.

While some of the later cotton plantings are making a slow start, the volunteer and early planted fields are showing blooms and squares.

Alfalfa seed fields are stripping in some sections but a fairly good average yield is indicated.

Bird injury to fruit crops is quite serious this year. It was necessary to pick the apricots fairly green in order to save any of this crop. The early fig crop will probably be a total loss.

Reports on the flood situation indicate that the high state of the Colorado river will be reached the middle of June, with a flow of 110,000 second feet of water. All levees on the project are in good shape.

Station work performed during the week consisted of plowing grain stubble lands; preparing and planting grain sorghum plats, D1 to 12; thinning and cultivating cotton; threshing wheat and burr clover; general irrigating and hoeing.

A gopher poisoning demonstration by the County Farm Advisor and a weed eradicator spraying demonstration by a representative of the Weedicator "Weed Company of Los Angeles, were held on the station during the week.

Mr. F. W. Waite, County Horticultural Commissioner of Imperial County, and E. L. Gartwaite, County Farm Advisor, were station visitors on June 3.

Demonstrations on Reclamation Projects.Newlands.

During the week ending June 4 there were 24 calls for assistance and one visit was made to farms. The work for the week pertained largely to dairy herd improvement and cattle selection. On Wednesday and Thursday evenings of the week, farmers' meetings were attended and talks made on dairy herd improvement with special emphasis on herd testing. The results of herd testing carried on by this office were discussed and dairymen were urged to take advantage of the assistance offered through this office. Both of the above meetings were well attended, the total attendance being about 80 adults.

During the week, one article was contributed to one of the local papers on the work of the Newlands Project Alfalfa Association, which had for its object the enlarging of the dairy interests of the valley through publicity by means of advertising in other sections of the country. This association which was largely promoted in the beginning by this office is still doing good work. One of the principal plans of the association is to secure dairy herd owners from other sections to come with their herds and establish themselves on ranches in this valley on feeding contracts. The terms of these contracts are mainly as follows: The ranch owner provides accommodations for the herd owner and his cattle and all necessary alfalfa hay to feed the herd. The payment for these accommodations and hay by the herd owner is on the basis of the value of 25 pounds of butter fat for each ton of hay used. For example: If ten tons of hay are used in any one month and the price of butter fat during the month had an average price of 40 cents per pound, then the owner of the herd would pay the ranch owner 25x40x10, which would be \$100, for the 10 tons of hay, or \$10 per ton for hay with no extra payment for the accommodations provided. This plan has appealed to the ranch owner and the dairyman, as the dairyman under the contract is assured ample feed based on the price of butter fat for the month and is relieved of any investment in real estate or labor incident to making the alfalfa hay. He is able to concentrate his energies on the care and improvement of his herd. Under the above conditions the ranch owner is assured a market for his alfalfa hay and receives therefrom a regular monthly income based on the average price of butter fat and is relieved of the investment in dairy cattle and labor incident to caring for them. A great many ranchers in this valley find it hard to combine dairying and the growing crops and the above plan appeals to them in solving their difficulties.

Beginning with the present week, the local Churchill County Creamery renewed operations under a new management. The present management consists of a local stock company in which a great number of local dairymen are interested. The Creamery will supply the local market almost entirely, since practically all the business establishments of the valley have stock in the creamery and are interested in its success.

No data was taken during the week on the cost of growing alfalfa hay. The cost of harvesting the first crop will be taken in about ten days when harvesting operations will begin.

Sun River.

During the week ending June 4, seven farm visits were made, the time spent on each farm varying from six hours to one day, and eleven calls for assistance were received.

The entire week was spent assisting farmers to locate proper places for head ditches and in carrying on demonstrations in how and where field laterals should be made.

High temperatures and warm dry winds prevailed during the latter part of the week. This change marks the first occurrence of good growing weather this spring. Although crops look good they have made slow growth, due to the cold, backward spring.

Uncompahgre.

On Monday of the week ending June 4, a trip was made to Ridgway with three boys and a truck to get Hereford calves for calf club. The three calves secured were bulls, about a year old, weighing from 675 to 800 pounds. They are fine animals but had never been handled and were pretty wild.

Three days of the week were spent with W. H. Olin, Supervisor of Agriculture for the D. & R. G. Railroad, who was representing a State Silo Committee appointed by the Governor to tour the state in the interests of dairying and silos. Excursions were planned for Montrose and Delta counties on which several farms where silos, pastures, milking machines, and good dairy herds could be seen, were visited, and three meetings were held. In Montrose County the excursion was attended by about 100 people but in Delta where a banker had made the arrangements, only a few attended, most of whom were business men from Delta. Interest would probably have been better if the price of butter fat had not taken such a drop recently, being only 19 cents in some places in Delta county. At 22 cents for fat a cow must produce 250 pounds a year to pay \$10 a ton for hay if she is fed hay alone, which means that most of the cows on the project are losing money at the present time. Loesch Brothers, who have the best herd of Holsteins in the valley, stated recently that the fourteen cows now in milk are returning a total of 55 cents per day above the cost of their feed counting skim milk at \$1.00 per cwt. A herd of five cows belonging to Mr. Brower are costing \$2.53 per day for feed for which they are returning \$1.86 worth of butter fat besides the skim milk. The condition is probably only temporary but if it continues long it is bound to result in a decrease in the number of cows being milked, in spite of all that can be done to prevent it.

Three more Poland China pigs were placed with pig club members this week.

Some pastures have been seeded and others are to be put in soon. Grass seed dealers report that the seed trade has been heavy.

W E E K L Y B U L L E T I N
Of the Offices of

WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS

Vol. XVIII.

June 18, 1921.

No. 25

Western Irrigation Agriculture

Huntley.

The maximum temperature for the week ending June 11 was 84, minimum 52, and precipitation .36 inch.

Crop conditions continue very favorable as a result of frequent showers during the past two weeks, excepting on parts of the project and in other parts of the valley where a severe hail storm occurred on June 1. This storm extended over about one-fourth of the Huntley project and parts of the Billings bench and Lockwood flat. The principal damage occurred to the first crop of alfalfa since other crops were not far enough advanced to be seriously injured.

Messrs. J. M. Stephens and George Morgan of Dry Land Agriculture were station visitors during the week.

San Antonio.

During the week ending June 4 the maximum temperature was 96, minimum 66, and greatest daily range 30. A trace of precipitation was recorded May 29 and June 3. The weather of the week was very dry and such crops as corn, sorghum, grass, and fruits suffered a very considerable loss. Much of the corn in the vicinity of the experiment farm has fired so badly that even though rain should come soon, no crop of grain can be expected. Corn on the station is firing somewhat but it is believed a good rain would still produce a fair crop.

Rhodes grass on fields A3, B3 and B4; Sudan grass on rotation plats A6-13 and B4-15; and broadcasted Red Top sorghum on rotation plats B4-12, 13, and B5-6, was harvested. The growth of Rhodes grass was very light and consisted principally of coarse seed stems. The sorghum which was harvested had not reached the optimum stage of development but the high percentage of Johnson grass in these plats made it desirable to harvest the crop before this grass ripened seed.

Very little team work was done during the week and available labor was used to chop weeds and Johnson grass from the fields in general.

Scottsbluff.

The weather was ideal for crop growth during the week ending June 11. The maximum temperature was 85, minimum 48, and precipitation .34 inch. The rain for the past month was 3.90 inches and put sufficient moisture in the soil so that all that is now needed for crop growth is warm weather.

Scottsbluff (continued).

All crops are exceptionally good for this time of the year. The beet stand is very good and they are making rapid growth. More than half of the beets in rotation experiments have been thinned. The corn has been cultivated and the alfalfa will soon be ready to cut. The grass and clover pastures are showing up well.

Mr. A. C. Cooley, Agriculturist in Charge of Demonstrations on Reclamation Projects, and Mr. John M. Stephens, of Dry Land Agriculture, were visitors at the experiment farm during the week.

Yuma.

The maximum temperature for the week ending June 11 was 106, minimum 61, and greatest daily range 44.

This warm weather has been of great benefit to growing cotton. Fields which have made a slow and late start are now making good growth. The general rule this year has been to irrigate the cotton much earlier than is usually the custom.

Alfalfa seed will soon be ready to harvest. Due to the change in the course of the Colorado river last year many growers who have depended on the underground water to carry the alfalfa along for a seed crop have found it necessary to irrigate this season.

At the present time the Colorado river is showing a discharge of 80,000 second feet of water. It is expected that the crest of the 1921 rise will come around June 23, with a maximum discharge of 110,000 second feet. Last year the maximum was 190,000. All protecting levees are reported to be in good shape.

Station work performed during the week consisted of plowing clover stubble plats, B-19-20; harvesting Berseem, B-18; preparing ground and planting dwarf hegari, D-18 to 25; cultivating cotton, cowpeas and soy beans; harvesting third cutting alfalfa, B-orchard; and general irrigating and hoeing.

Demonstrations on Reclamation Projects.Newlands.

During the week ending June 11, forty-one calls for assistance were received, and five visits were made. One article was contributed to a local paper reporting results of herd testing conducted by this office in May. Another article was contributed to a local paper on the subject of herd testing, setting forth the importance of herd testing in a general scheme of herd improvement. The beneficial results from several years' herd testing to other localities were elaborated upon.

One farmers' meeting was attended in Fallon, at which meeting the subject of a farmers' cooperative marketing association was presented by Mr. Norcross, the Director of the Extension Division of Nevada. This

Newlands (continued).

proposed organization was originated by the Extension Department, being promoted throughout the state by county agents. It has for its ultimate purpose marketing cooperatively the agricultural products of its members, and collecting and disseminating information as to supplies and demands of farm crops and live stock. The initial step for this organization provides for a minimum of 750 initial members paying an initiation fee of \$1.00 each. When this initial membership is completed, delegations will be sent from each county to perfect the organization and decide on methods of procedure.

The weather for the past week has been very warm. The alfalfa is maturing very rapidly. It is expected that the harvesting of the first crop will begin in a few days. Some of last year's hay crop is being moved at \$10 to \$10.50 per ton f.o.b. cars.

Milk River.

During the week ending June 11 the weather records at Malta station show a minimum temperature of 39, and a maximum of 90 degrees with a precipitation of .64 inch. Three farm visits were made and 13 requests for assistance were received.

Spring planting is almost completed. A few farmers, however, are still planting some of the later grains. Due to intermittent rains very little irrigation has been accomplished to date. Crops generally are in very good condition and give promise of a favorable season. The forepart of the week was spent in getting out publicity with respect to the service the writer expects to give the farmers during the summer. Inquiries and requests came in daily during the latter part of the week regarding the time that service would be available. Four calls from Saco, five from Malta, and a letter from the Chamber of Commerce of Glasgow stating that many inquiries were coming in, have been received.

A trip to Harlem was made on Thursday to consult the experienced alfalfa seed growers in that district. Several inquiries have already been received as to the advisability of trying to grow a seed crop this year. It was the writers opinion that the season had been a little too damp to insure a seed crop but this view was not supported by the growers at Harlem.

The latter part of the week was spent on Mr. Jones' farm near Malta. A complete system was laid out and constructed for the irrigation of a field of oats and alfalfa. Water is to be applied during the coming week.

Sun River.

During the week ending June 11, 6 farm visits were made, the time spent on each farm varying from five hours to one day. Eleven calls for assistance were received, two meetings were attended, and lateral systems were planned on six hundred acres.

Sun River (continued).

The first part of the week was spent at Great Falls, Montana. The purpose of the trip was to interview Mr. C. C. Wright, Field Assistant on the Milk River Project, and to attend a meeting of county agents from several surrounding counties.

Hot dry weather, accompanied by warm winds prevailed during the past week. Already, grain that has not been irrigated, is being seriously damaged by drought.

Farmers have paid particular attention to preparation of land for irrigation this year. Practically all ground was leveled and better laterals have been constructed.

Miscellaneous.

Under date of June 8, Mr. Ratliffe reports the occurrence of root rot in the San Antonio rotations on May 31, which is believed to be the earliest date that plants have died from this disease at the San Antonio Experiment Farm. It is also reported that a severe drought is on at San Antonio which is having a serious effect on corn. Grain sorghum promise to mature without serious injury and cotton is doing fairly well, the drought having seriously hindered the development of boll weevils.

WEEKLY BULLETIN
Of the Offices of
WESTERN IRRIGATION AGRICULTURE
and
DEMONSTRATIONS ON RECLAMATION PROJECTS.

Vol. XVIII.

June 25, 1921.

No. 26

Western Irrigation Agriculture.

Field Notes.

San Antonio.

During the week ending June 11 the following meteorological data were recorded: maximum temperature 97, minimum 67, greatest daily range 30, and precipitation 3.16 inches. Four days were cloudy and three were partly cloudy. The period of drought, which began May 1, persisted until the morning of June 11 when a steady rain began falling. The first inch of this precipitation came slowly so that very little was lost by run-off. A large percentage of the remainder came in heavy showers which caused some soil washing on the more rolling portions of the farm. Grain and forage sorghums, cotton, truck crops and fruit will be greatly benefited by this moisture. The majority of the corn crop was, however, too badly fired by the time the rain came to expect more than a small percentage of recovery.

Rotation plats A4-5, 11 and 15 were plowed. All other fallow plats were disked for weed control. Sorghum on rotation plats A4-13, 17; B5-12 and 16, was harvested.

Chopping Johnson grass was stressed throughout the week.

Newlands.

During the week ending June 18 arrangements were made to continue the cooperative experiment on the H. J. Long ranch. The stock scales were moved to this place and arrangements made for taking data on weights of dairy cattle during the lactation period, while on a straight alfalfa hay ration. Weights of hay consumed by a group of these cattle which are especially heavy milkers will be taken for a period in order to add to the data already collected on the consumption of hay by producing dairy cattle. There has been considerable data collected already on the amount of hay consumed by Jersey cattle and the data secured from these large producing Holsteins will add materially to the information already accumulated.

Some time was spent during the week on the proposition of getting out a folder advertising the agricultural resources of the project. This folder, if published, will be gotten out by the local Chamber of Commerce. This office has been asked to assemble some material for

Newlands (continued).

the booklet.

One demonstration for destroying lice on dairy cattle was conducted. The material used was kerosene emulsion made in the proportion of one bar of laundry soap and one pint of kerosene to five gallons of soft water. This dip is considered preferable by the writer because it is inexpensive and can be made from materials always on hand. It is free from odors and leaves the animals skin in excellent condition and is quite destructive to the nits. The treatment should be repeated in ten days. This treatment for lice has been found very effective on all classes of live stock.

During the week twenty calls for assistance were received and six farm visits were made.

Demonstrations on Reclamation Projects.Sun River.

During the week ending June 18, thirteen farm visits were made, the time spent on each farm varying from one hour to one day. Sixteen calls for assistance were received, two meetings were attended and one talk was delivered.

Work during the week consisted of surveying and planning irrigation ditches, assisting members of the boys' potato club with potato production, etc.

A much needed rain occurred Thursday. Hot dry winds for three successive days previous to the storm did some damage to grain, especially was this the case where the crop had not been irrigated.

A large percent of the farmers have been irrigating during the week. Favorable reports have been received from all sections of the bench on irrigation as a control measure for the cutworms.

There is a movement on foot here to secure Federal farm loans on land under reclamation service. A meeting was held on the east end of the project last Sunday where the Federal Farm Loan was explained. A letter was written to Congress requesting that a plan be outlined to secure legislation that will enable the farmers here to secure farm loans under the provision of the Federal Farm Loan Act.

Mr. Blaine Ferguson, newly appointed irrigation specialist from Bozeman, Montana, visited the project during the week to study irrigation conditions. One day was spent visiting on the project to show the progress made and the different methods used in applying water to the land.

Uncompahgre.

The men from Sunnyside district who have been talking of organizing a bull circle were called on during the week ending June 11, and as a result four of them called on Mr. Armstrong who has a good, young Holstein bull for sale. They did not buy the bull but will probably do so as soon as they can make arrangements for the money.

Uncompahgre (continued).

Dr. Griffith, local veterinarian who farms near town, is undertaking to seed a piece of land which is badly infested with wild morning-glory or bind weed. His experiment will be watched with interest. Bind weed is extremely bad in places on the project and no method for its eradication has been found. If a stand of grass can be secured it is thought that pasturing may keep the weed in check. Dr. Griffith is planning to sow 50 pounds of a mixture per acre.

Some time has been given to locating cows for two men who want several head. In spite of the fact that butterfat is so low, desirable cows were not offered at unusually low prices. Those seen were held at \$110 to \$175 per head, all being grade cows, 3 to 7 years old.

Milk was tasted for Mr. Strieby who has a small herd of Jerseys, part of which are pure bred. Two requests for testing next week were received. Perhaps the butterfat market is accountable for the apparent increase of interest in keeping of records.

Two trips to Delta in connection with the Breeders' Directory were made. One more will be necessary before the pamphlet can be printed.

An unusual rain fell on Tuesday of this week. Rivers are all very high and still rising.

-000000-

Western Irrigation Agriculture.HUNTLEY

Cow, record production for state	56
General Crop Conditions.....	84
Pasturing experiment.....	84
Sunflowers, discontinuance of comparative silage test.....	56

NEWLANDS.

Climatic conditions, general, Spring 1921.....	63
Comparison of 1920 and 1921 blossoming dates of fruit trees.....	70
Corn variety test,	76
Experiments, cooperative.....	66
Pasture grasses, planting of.....	64
Potato variety tests.....	74
Sugar beet experiments.....	73

San Antonio

Climatic conditions, 1920.....	3
Corn, planting of rotation experiments, 1921.....	57
Cotton, planting of experiments, 1921.....	69
Milo, planting of rotation experiments, 1921	57
Root rot, first appearance of in crop season, 1921	96
<u>Salvia hispanica</u> , small planting of	77

SCOTTSLUFF.

Conditions on experiment and project, January 1921.....	2
Conditions on experiment farm and project, June 1921.....	89

YUMA.

Barley, report on maturity of various varieties,	58
Cotton, indications of decreased acreage in 1921.....	28
Cotton, Upland, yields of variety test	50
Cotton, project planting, estimated areas of varieties.....	54
Demonstrations, gopher poisoning and weed eradication	90
Hogs, feeding experiments inaugurated.....	60
Oil, drilling of first well.....	57
Pecans, unusual interest in.....	49
Project conditions, general.....	44
Vetch, possibilities of purple vetch for seed.....	58

Demonstrations on Reclamation Projects.HUNTLEY.

Agricultural Development on Project in 1920 (annual report)....	5
---	---

NEWLANDS.

Agricultural Development on project in 1920 (annual report)....	31
Cooperative marketing association, discussion of.....	94
Creamery, Renewal of operations	91
Herd testing, meetings concerning	91
Newlands project alfalfa association.....	91

UNCOMPAHGRE.

Agricultural Development on project in 1920 (annual report)....	13
Bull, association, sale of.....	30
Calf Clubs.....	88
Cholera, hog, outbreak of	52
Hogs, feeder	29
Meeting, farm bureau,	29
Shows, attendance at.....	45
Steer-feeding plant, visit to.....	30
Test, feeding, hog	3

Miscellaneous

Cable, telegraph, Western Union, discontinuance of	65
Effects of varying amounts of Aluminum Sulphate on Worden Soil....	81
Irrigated Cotton in Southwest, estimate 1921 acreage.....	86

